THIS WEEK'S National Petroleum NEWS

Index to Coming Meetings

Conference of state governors, federal oil board and oil operators on conservation, Broadmoor Hotel, Colorado Springs, Colo., June 10.

Independent Oil Men's Association of New England: Middletown, Conn., June 12; Wollaston, Mass., July 10; Fall River, Mass., Aug. 14; Providence, R. I., Sept. 11; Worcester, Mass., Oct. 9.

West Virginia Oil Marketers Association, Daniel Boone Hotel, Charleston, W. Va., June 13, 14.

North American Gasoline Tax Conference, Book-Cadillac Hotel, Detroit, Mich., Aug. 7, 8, and 9.

Independent Oil Men of America, Stevens Hotel, Chicago, Oct. 21, 22, 23.

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OTTO D. DONNELL, the president of the Ohio Oil Co., has been an employe of the company for more than 34 years. He was elected to the presidency in February, 1927, succeeding his father, the late James C. Donnell.

During his association with the Ohio company, Mr. Donnell has helped with its expansion from a producing company, operating in Ohio, Illinois and Indiana, to an organization extending into California, the Rocky Mountain territory, the Mid-Continent and Texas (through its subsidiary, Mid-Kansas Oil & Gas Co.), Louisiana and Arkansas and possessing undeveloped foreign acreage. The company also operates a refinery and filling stations.

Mr. Donnell was first employed in the company as an office boy while in the public schools. Later he received, in the field, a thorough grounding in all branches of the company's activities. He became a director in 1913 and in 1922 was elected vice-president and treasurer, holding that position until he became president.

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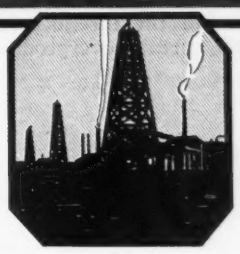

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Vol. 21 CLEVELAND, June 5 No. 23

A.P.I. Expresses Desire for Board To Enforce Conservation Laws

By Roger B. Stafford
N. P. N. STAFF WRITER

CLEVELAND, June 3

DESIRABILITY of a commission, possibly an interstate board operating under an interstate compact, to enforce uniform conservation laws in the major oil and gas producing states, is expressed by the directors of the American Petroleum Institute in a resolution in which they accepted the invitation of the Federal Oil Conservation Board to attend the conservation conference at Colorado Springs, Colo., beginning June 10.

A committee to attend the conference was appointed by President E. B. Reeser of the institute but the committee was not given authority to bind the institute to any definite program that might be set afoot at Colorado Springs. It must first report back to the directors.

In admitting this desirability of some regulating commission the institute directors do not concede a "public interest" in the oil industry which would classify the oil industry as a public utility. Any effort to bring about such a classification will be vigorously opposed by the institute, it was indicated by A.P.I. officers following their meeting in New York last week.

The Colorado Springs conference will not have authority to write a binding compact but it may make recommendations which would be submitted to the various states for consideration and action. This definition of the scope of the conference was given out by Secretary of the Interior Wilbur with the announcement that Mark L. Requa will be permanent chairman of the conference, acting for the government as special advisor. The memorandum of Secretary Wilbur follows:

"Secretary Wilbur explained that while this conference is called by the President, is to be attended by officials of the Federal Oil Conservation Board, of the Department of the Interior, of the various oil producing states, and representatives of the petroleum industry, it is in fact preliminary and has no final authority. Any action it might take would be in the nature of a recommendation. It would have no authority to write a binding compact. If specific results should grow out of it they would have to develop step by step. As a result of its deliberations state legislatures might take action leading to uniform legislation and the acceptance of an oil conservation compact subject to the final approval of Congress."

The position of the institute and its instructions to its delegates are set forth in the following resolution which was drafted by its executive committee and adopted by the board at its meeting May 28:

"WHEREAS, the President of the United States has invited the governors of certain oil producing states to attend a conference in Colorado Springs on June 10 to consider the subject of conservation of our oil and gas resources, and

"WHEREAS, the Federal Oil Conservation Board has invited the American Petroleum Institute to send representatives to that conference, therefore, be it RESOLVED,

"One: that the invitation be accepted and that the President of the Institute be authorized to appoint a committee to attend that conference.

"Two: that the Institute recognizes the desirability

"(a) of uniform conservation laws in the major oil and gas producing states;

"(b) such safeguards for the enforcement of these enactments as it may be found possible;

"(c) flexibility in enforcement by entrusting the formulation of regulatory provisions to a commission;

"(d) authority in the commission

Texas Governor Picks Three Delegates

HOUSTON, June 1.—A commission composed of two lawyers and the chairman of the Railroad Commission of Texas, which administers the state's conservation laws, will attend the Colorado Springs conservation meeting, June 10, representing Governor Dan Moody.

The two lawyers appointed by the governor are M. M. Crane, of Dallas, formerly attorney general of Texas, and C. L. McCartney of Brownwood. The chairman of the railroad commission is Clarence E. Gilmore of Austin.

All members of Governor Moody's commission are described in oil company legal circles as conservative thinkers.

Although his intentions have not been definitely announced it is understood that Governor Moody will not personally attend the Colorado Springs meeting.

to approve agreements affecting conservation;

"(e) establishment of a few major principles to guide the commission in its action, and

"Three: that the committee should report back to the board of directors before undertaking to commit the institute to any definite program."

W. R. Boyd, Jr., executive vice-president of the institute, explained in regard to clause (b) that the institute directors had in mind a commission such as has been created by a compact between the states of Washington and Oregon to regulate the fishing industry in the Columbia river. A commission, it was explained, could assure equitable enforcement of uniform conservation laws enacted by the major oil and gas producing states, refusing one state a chance to run wild in production while another state was attempting to hold back production for which there was no immediate market.

Flexilibility in regulations was desired, it was explained in regard to clause (c), because variations in operating and producing conditions in various pools in one or several states might require varying degrees of restrictions on production in case of general overproduction. In other words, any regulations should be flexible enough to meet the technical requirements of individual pools.

To attain the desire expressed in clause (d) it might be necessary to have state commissions rather than an interstate commission in view of the letter of United States Attorney General Mitchell to the federal oil board in which he disapproved the suggestion of the institute for agreements to curtail overproduction.

The institute will be represented by President Reeser, Executive Vice-President Boyd, members of the General Committee on World Production and Consumption of Petroleum and Its Products, and several oil company lawyers. Members of the general committee are:

R. C. Holmes, president, The Texas Co.; K. R. Kingsbury, president, Standard Oil Co. of California; G. Legh-Jones, president, Shell Co. of California; L. P. St. Clair, vice-president, Union Oil Co. of California; W. C. Franklin, vice-president, Tidal Oil Co.; B. H. Stephens, vice-president, Magnolia Petroleum Co.; W. N. Davis, vice-president, Phillips Petroleum Co.; W. S. Fitzpatrick, chairman, Prairie Oil & Gas Co.; Roy B. Jones, president, Panhandle Producing & Refining Co.; W. N. Irish, president, Atlantic Refining Co.

F. R. Coates, vice-president, Henry L. Doherty & Co.; Henry M. Dawes, president, Pure Oil Co.; Walter C. Teagle, president, Standard Oil Co. (N. J.); Axtell J. Byles, president, Tide Water Associated Oil Co.; E. J. Sadler, president, Creole Petroleum Co. (Standard of New Jersey); R. G. Stewart, president, Pan American Petroleum & Transport Co.; Richard Airey, president, Asiatic Petroleum Co.; C. F. Meyer, president, Standard Oil Co. of New York; A. E. Watts, vice-president, Sinclair Consolidated Oil Corp.; W. S. Farish, president, Humble Oil & Refining Co., and J. Edgar Pew, vice-president, Sun Oil Co.

At Washington today it was said no program had yet been completed for the Colorado Springs conference. Secretary Wilbur will open the conference with an address setting forth the ideas of President Hoover and the oil board. He then will turn the gavel over to Mr. Requa who will tell of his personal investigations of the last few years and his deductions from his observations.

Dr. George Otis Smith, director of the U. S. Geological Survey and chairman of the technical advisory committee of the oil board, has returned from a visit to the major oil and gas producing states of the southwest and west and will leave late this week for Colorado Springs.

Secretary Wilbur also will go late this week. E. S. Rochester, secretary of the oil board, is to leave Washington June 4 to make the preliminary arrangements for the gathering which will draw upwards of 100 public officials, their delegates, and oil industry representatives together.

Only one of the 11 governors invited to the conference by President Hoover has declined to send official representation. He is Governor George H. Dern of Utah. However, he will be represented by an unofficial observer, William R. Wallace, vice-president of the Utah Oil Refining Co. No word has been received in Washington from the governors of Louisiana and Arkansas.

(*Continued on Page* 29)

Oklahoma Governor Appoints Ten Delegates

TULSA, June 1

TEN delegates were appointed May 29 by Governor Holloway to represent Oklahoma in the Colorado Springs conference on June 10, called by President Hoover to discuss conservation, with particular reference to a compact between states.

With the exception of Attorney General Dabney, Oklahoma's delegation will consist of oil men, some of whom are attorneys. His selections are: E. W. Marland, Ponca City; Henry McGraw, vice-president and general manager of the Gypsy Oil Co., Tulsa; Fred S. Cook, superintendent of the land department of the Prairie Oil & Gas Co., Tulsa; James A. Veasey, chief counsel of the Carter Oil Co., Tulsa; Burdette Blue, vice-president and general manager of the Indian Territory Illuminating Oil Co., Bartlesville; Pat Malloy, Independent operator, Tulsa; J. J. Cosgrove, chief counsel, Marland Oil Co., Ponca City; W. R. Ramsey, president, Ramsey Petroleum Corp., Oklahoma City; Roy Johnson, Independent operator, Ardmore, and Dr. W. E. Grisso, royalty owner, Seminole.

Not all had signified their willingness to accept the appointment, but it was understood that nearly all would attend the conference. The governor said that his appointment of delegates was in no sense to bind the state to any course of action and that any tentative agreement reached at Colorado Springs would not be binding upon Oklahoma until a thorough investigation could be made.

Earlier in the week a number of Independent operators' associations agreed to unite in presenting their views at the conference. In such consolidation of purpose, the Mid-Continent Royalty Owners Association played a prominent part. The associations involved and their representatives are as follows:

Gulf Coast Oil Producers Association—R. L. Young and Dan G. Harrison, both of Houston.

Texas Independent Oil Men's Association—State Senator J. D. Parnell, Wichita Falls.

South Oklahoma Independent Oil Men's Association — Wirt Franklin, Ardmore, and B. A. LaSelle, Ada.

National Association of Independent Oil Producers—W. H. Gray, C. J. Wrightsman, and H. F. Wilcox, Tulsa; W. R. Ramsey and T. B. Slick, Oklahoma City; J. S. Cullinan, Houston, and C. C. Harmon, Nowata, Okla.

Kansas Oil and Gas Producers Association—Congressman W. H. Sproule, Sedan, and Mark D. Mitchell, Independence.

Independent Oil Men's Association of Oklahoma—U. S. Senator W. B. Pine, James G. Lyons, Okmulgee, and Harry H. Diamond, Holdenville.

Mid-Continent Royalty Owners' Association—Wade H. James, Tulsa; Lee Scott, Wichita, Kans.; E. G. Bedford, Midland, Tex., and Harley Hinton, Shreveport, La.

Ohio Gas & Oil Men's Association—James W. McMahon, Toledo.

Northwestern Pennsylvania Oil Producers Association—D. T. Andrus, Bradford.

Louisiana Independent Oil Producers Association—A. R. Carmody, Shreveport, and W. Scott Heywood, Jennings.

Venango County Oil Producers Association — David B. McCalmont, Franklin, Pa.

A.P.I. Directors Again Take Stand On Controversial Subject

By Warren C. Platt
EDITOR

AGAIN the directors of the American Petroleum Institute are undertaking to speak for the whole membership of the Institute on the most important question before the oil industry in years.

This time the speaking is by resolution adopted at a meeting of less than half the directors at New York last week. In these the directors say "that the Institute recognizes the desirability" of a joint commission between the interested states being given broad and—according to the resolution—unrestricted power over the oil industry.

This may be the wise thing for the Institute to do. Perhaps the membership to a man is in favor of the directors' action, although from comments we have heard throughout the industry on government regulation, we do not believe there is any unanimous accord on the idea. But the directors should not take this action unless they know that it is the wish of the vast majority, at least of the membership. Even then it may not be wise for an association of the kind the Institute must be, to take a definite stand like this on a highly controversial subject.

Might not this resolution have been better if worded that "the directors, by a majority vote of those at this meeting, now feel that they would approve of recommending to the industry the following" and let it go at that? This is far different language than saying "that the Institute recognizes," for, by the ordinary construction of the English language, the average person has a right to believe that the directors thereby undertake to speak for and to bind the whole membership of the Institute to what they decide.

There is much fear and uproar throughout the industry right now over possible government control of one kind or another. When one gets right down to what actually may be done, the government supervision idea does not look so ominous as it does in the discussions. But even at its best government cooperation of any kind should be approached cautiously and if possible should be avoided.

However, there are some features of oil production that may possibly have to be done under some form of government supervision. But if so that does not mean that the whole industry should be or must be shoved under the arbitrary auspices of a government body. However, any step, to the government, is quite likely to mean further steps. That may be the natural and necessary trend of civilization.

This is a question that, in one way or another, is before all industries and all governments. It is a question on which one can blow hot and then cold. One's thought is progressing, or, at all events changing, on it, as he gives it more study and digs out more facts that bear on it from past history or the present.

That it is such a debatable question is the most commanding of reasons why there should be and must be the utmost freedom in discussions of all its angles. Granted there will be a lot of idle and unnecessary discussion; granted that some of the discussion will be heated and much of it probably ignorant; all this is only the more reason for public discussion and public development of all the facts and opinions that may bear on it and, in addition, the fullest publicity of all negotiations of every kind on the subject.

The directors of the Institute cannot lead the membership of the Institute, nor the rest of the oil industry, into any form of government control, no matter how desirable that might be for the industry, if those directors look upon it as a matter to be determined solely by them, and if those directors believe they are especially inspired and authorized, by their election to office, to handle the whole matter in the privacy of their offices and in confidential conferences. All the history of the world cries out to those directors from thousands of years that such a method is bound to fail.

There was a time, which our school histories fail to note, when our own United States Senate started its existence by holding all sessions in secret. This continued for several years. There were loud protests from the state. Legislatures adopted resolutions demanding of the Senate that it hold its meetings in public like the house of representatives. The senate was told that it had not been given unlimited power of attorney over all citizens.

The senate finally opened its doors, reserving secret sessions only for consideration of nominations and treaties, which secrecy is today under fire and may be eliminated.

The American Petroleum Institute is and must be, to be of any value, a representative, democratic organization but it cannot be that if the directors operate on the false assumption that their office with the Institute makes them the unchallenged rulers of this oil industry.

(*Continued from Page* 28)

California will be represented by William J. Carr, member of the State Railroad Commission; Fred G. Stevenot, director of the State Department of Natural Resources; U. S. Webb, state attorney general, and possibly one or two others, Governor C. C. Young has told NATIONAL PETROLEUM NEWS.

Governor J. E. Erickson of Montana has sent NATIONAL PETROLEUM NEWS this wire:

"I will try to attend the conference at Colorado Springs with other representatives from Montana. It will be the purpose of Montana representatives to protect the interests of the oil industry of Montana and trust we may be able to cooperate with the policy of the federal government in this respect."

Governor R. C. Dillon has appointed the following delegation to represent New Mexico:

Hugh B. Woodward, Clayton; C. G. Staley, H. J. Hagerman, Byron O. Beall, F. S. Donnell, E. M. Elliott, O. A. Larrazolo, Jr., C. B. Baker, Francis C. Wilson, Theodore Espe,

and Reed Holloman, Santa Fe; H. B. Armitage, W. C. Kneale, C. G. Scott, and C. M. Hall, Carlsbad.

H. D. Bedford, Herman R. Crile, F. B. Smith, E. A. Hanson, F. S. Prout, R. K. Deford, Jack Cusack, Harry Leonard, Burton C. Headley, A. G. Swanson, Hal Cave, Keith Krouse, S. M. Willis, S. P. Hannipin, B. C. Mossman, Mrs. Grace McDonald Phillips, and Emmett Batton, Roswell; A. C. Brown, Martin Yates, William Dooley, Robert Henderson, Chester Dexter, Van S. Swelsh, and M. E. Baish, Artesia.

John Nickolis, Shiprock; James M. Hervey, Sidney Weil, Louis A. McCray, Will Keleher, J. R. McColum, L. C. Bennett, and Tom Hughes, Albuquerque; Mrs. Blanche Trigg, Fort Sumner; Will Springer, Las Vegas; Perry Coons, Gallup; J. D. Atwell, Roswell; L. C. Larkin, Raton; L. C. Hanlon, Willard, William Snyder, Lovington, and C. L. Green, Farmington.

The New Mexico executive committee consists of Hugh B. Woodward, C. G. Staley, B. C. Mossman, L. C. Bennett, and Herman R. Crile.

Governor Dillon's secretary, C. H. Olsen, announced the governor would not attend the conference.

Governor Clyde M. Reed of Kansas will attend the conference, he has announced.

Governor Young of California who May 28 signed the California oil and gas conservation law explained his state's attitude as follows:

"California enters this conference merely upon the invitation of the federal government, and without any policy which it desires to promulgate. Our representatives, however, will be glad to tell of the experiences of California as they have observed in their work on the oil and gas conservation committee—a work which was confined largely on the part of the people themselves to securing cooperative effort along conservation lines."

* * *

Rocky Mountain Men Select Delegates

CASPER, Wyo., May 31.—Former Governor B. B. Brooks of Wyoming, president of the Rocky Mountain Oil & Gas Association, will head the association's delegation to the conservation conference at Colorado Springs, Colo., June 10. Other delegates will be:

R. S. Ellison, vice-president and general manager of the Midwest Refining Co.; John McFayden, vice-president and western manager of the Ohio Oil Co.; Senator Patrick Sullivan, Republican state committeeman from Wyoming, and A. J. Hazlett, editor, Inland Oil Index.

These delegates were selected at a special meeting of the directors and executive committe of the association May 29, at which questions pertainining to the conference were discussed.

The delegates will probably stop in Cheyenne for a conference with Governor Frank C. Emerson and accompany him to Colorado Springs. A number of state officials will also accompany the delegation to Colorado Springs.

It was the sense of the directors of the association that Wyoming would probably not favor entering a compact of states for the control of production and drilling operations as there is practically no waste or overproduction in the state and for the further reason that most of the producing oil fields are now under either state or federal supervision because 62 per cent of the area of the state is owned by the federal government and about 10 per cent owned by the state.

Photo by Blank-Stoller, Inc.

Frederic Ewing

N. Y. Standard Adds Two to Directorate

NEW YORK, June 1.—Frederic Ewing and Richard P. Tinsley were nominated for members of the board of directors of the Standard Oil Co. of New York at the company's annual meeting here May 31.

The size of the board was changed to a minimum of five members and a maximum of 18 members. It has been held to 14 members. The old board was re-elected and the inclusion of Messrs. Ewing and Tinsley brings the membership to 14.

Mr. Ewing is a mining engineer who turned oil salesman and became an executive of a large corporation. He is a native of San Angelo, Texas, and has just recently celebrated his 45th birthday anniversary.

After being graduated from Yale in 1906 he worked as a mining engineer for the Guggenheims and John Hays Hammond until 1910 when he became an oil salesman for the Inter Ocean Oil Co. of New York. Four years later he joined the Pan American Petroleum & Transport Co. as salesman and chief engineer. He was appointed general manager of Pan American in 1920, elected a director April 1, 1925, and vice-president Sept. 11, 1925.

Demand for Muskegon Crude Improves; New Refineries Are Projected

By Ward K. Halbert
N. P. N. STAFF WRITER

MUSKEGON, Mich., June 1

PRODUCERS of crude in the Muskegon oil field are becoming daily more hopeful of an adequate outlet for their estimated potential output of 30,000 barrels a day. Already the Dixie Oil Co., producing subsidiary of Standard Oil Co. of Indiana, is moving approximately 8,000 barrels a day of Dundee crude by tanker to the parent company's refinery at Whiting, Ind., several times as much as was moved previously by rail.

Shell Petroleum Corp., has a representative in Muskegon whose errand ostensibly is to buy crude to be moved by water to the company's refinery at East Chicago, Ind. Some is said to have been contracted to move about June 1, but none has started and the Shell refinery has not run any Muskegon crude. It is not an established fact that it will move by water.

Bringing back into service of the currently idle plant at Lemont, Ill., property of Charles B. Shaffer and associates, promises soon to provide an outlet for 5000 barrels a day of Muskegon crude oil. The plant has been purchased by Globe Oil & Refining Co., with Mid-Continent refineries at Blackwell, Tonkawa and Cushing, Okla. In order to run 5000 barrels a day the plant will have to be enlarged but that, it is believed, will start immediately.

The Lemont plant is situated near the Illinois Drainage Canal, only a short distance west of Chicago. The canal is navigable by barge and is used now by The Texas Co., to bring gasoline from its refinery at Lockport, Ill., to two terminals in Chicago. An 8-inch pipe line is being laid from the Lemont refinery to the canal, a distance of only 200 yards.

Rumors have been circulated in Chicago that the Globe Oil & Refining Co., already has acquired barges in the east. This can not be confirmed locally. If the assumption is correct, that Globe will move Muskegon crude to Lemont by barge, the material will reach the canal from the lake by way of the Chicago river (off Wacker drive) in Chicago and four days will be required for a round trip.

When it ceased to operate, the Lemont refinery was a 2000-barrel skimming plant augmented by two Donnelly cracking units with a joint capacity of 1500 barrels a day. Part of its facilities have been used in recent months by the Thiophene Products Co., manufacturers of a food tonic for poultry, also an interest of C. B. Shaffer and E. E. Smathers.

Crude oil is the material from which Thiophene Products Co. develops its chicken medicine but the crude comes from Montana in comparatively small quantities by tank car. This industry will remain in Lemont as a Shaffer interest. The refinery was visited recently, prior to its sale, by L. A. O'Shaughennessy of Blackwell and G. G. Woodruff, formerly in charge of sales for Shell Petroleum Corp., in St. Louis. Rumors that Shell tried to buy the plant were not correct.

A few Independent refineries in the Lake Michigan region already have been running some Muskegon crude, notably the Joliet, Ill., plant of Henry H. Cross Co., Chicago. It is estimated that about 3000 barrels a day have been moving out of Muskegon to Joliet by rail. There have been some other scattered shipments also.

The oil community in Muskegon has vibrated about once a week with a new rumor of a new refinery to be built on the east coast of Lake Michigan. The most important of these has been confirmed. It is the formation of Old Dutch Refining Co., to build a 3000-barrel plant near Muskegon. It will run Dundee crude for its naphtha content. The idea is to make as little gasoline and kerosene as is practical and produce as much painters and cleaners naphtha as possible—the crude being well adapted to that utilization.

Old Dutch Refining Co. is reported adequately financed. Walter Shuttler, a Chicago financier, is president of the company. E. L. Hughes, head of Hughes & Co., Chicago is one of the vice presidents and Walter E. Anderson, who sold the Winona Oil Co. of Winona, Minn., to Cities Service Oil Co., a few years ago, is another. John Borden, recently made famous by the Borden Polar Expedition, is secretary-treasurer. They expect to have their plant in operation about September.

Other refinery projects are being talked about. Rumor has it that the J. D. Wrather interests of Amarillo, Texas, have a refinery in Muskegon under consideration. At any rate, the outlets already enumerated which are expected to be taking crude before the present motoring season is over, are nearly enough to absorb the present estimated field output.

TWO kinds of crude are produced in the Muskegon field. From the upper producing level, the Traverse formation, the output is only about 1000 barrels a day, but the oil is more easily refined and more desirable than the Dundee oil which is encountered deeper in the structure.

Standard Oil Co. ships all the Traverse oil the field produces to its little refinery near Saginaw, Mich., by rail. In addition it takes 8000 barrels of Dundee. If Shell should take as much as the Standard in addition to 3000 barrels each for H. H. Cross and Old Dutch Refining Co., and 5000 barrels for Globe, 28,000 barrels are provided for.

Standard Oil Co. already has built an 8-inch pipe line from its storage near the field to the shore of Lake Michigan, about two miles away and built a loading dock for its tanker. As far as can be learned, no such provisions have been made by any other company. The Texas Co.'s refinery at Lockport and the Bartles-Maguire refinery at East Chicago, Ind., both are in a position to buy Muskegon crude and ship by water but neither has used any yet.

Technologists to Visit Bureau on June 14

WASHINGTON, June 3.—A. W. Scott, Empire Oil Works, Reno, Pa., trustee in charge of the department of standards and tests of the National Petroleum Association, announces that June 14 is the date set for the annual visit of technologists of the association to the Bureau of Standards in Washington. The announcement was sent out by Fayette B. Dow, general counsel of the association.

Any association member having any suggestions to offer as to what tests should be made on that occasion is invited to send them to Mr. Dow.

Continental-Marland

In a few instances the Marland and Continental companies "offset" each other with filling stations. Wherever this occurs, one will be discontinued. The picture shows one such competitive corner in Tulsa

TULSA, June 1

THE merger of two large companies, each with national fame, is always of interest from the standpoint of how each fits into the paths established by the other. In the case of the Continental Oil Co. and the Marland Oil Co., whose corporate jointure will formally be consummated this month, detailed analysis of their operations shows that the union should be a happy one. The properties of each blends nicely into those of the other.

The new company, which will take the Continental name, will have a refining capacity of 66,750 barrels in eight refineries. Its net production at this time almost matches the refining capacity, totaling 64,571 barrels.

Gross production amounts to 104,328 barrels and as the producing company frequently has command of the royalty interest, the amount of oil which the company will produce and buy from properties it operates will more than equal the refining capacity. Of course not all of the production is so located as to be available to company refineries direct and a considerable part is sold to other buyers, affording income with which to buy oil in the refinery areas.

The merger, which will be effected by exchange of Marland stock for Continental, will be wound up June 17. Thereafter the Marland name will be dropped and the company will continue under the Continental name.

In the distributing field the Continental will market in retail and wholesale way in 28 states and the District of Columbia. In addition it has a thriving European business. Both companies have distribution in Arkansas, Oklahoma, Texas, Kansas, Colorado, New Mexico, Missouri, Nebraska and Wyoming.

At some points there is an overlapping, but in many instances no distributing facilities will have to be discontinued. The present Continental, whose stronghold always has been the Rocky Mountain territory and the retail price maker therein, markets in these states not touched by Marland: Montana, Idaho, Arizona, Oregon, South Dakota, Utah and Washington.

The Marland company distributes in the following states not served by Continental: Louisiana, Iowa, Illinois, Indiana, Kentucky, Minnesota, Virginia, New Jersey, New York, Massachusetts, Maryland, the District of Columbia and California.

Marland has 354 filling and 310 bulk stations; Continental 622 filling and 1,008 bulk. The merged companies will have 976 filling and 1,318 bulk stations. These figures do not, of course, take into account the large number of dealers who sell one or the other company's products.

NATIONAL PETROLEUM NEWS has obtained figures on the volume of business done by the two companies in 1928. The total is a huge one. In gallons, it is as follows:

	Combined Total	Marland Companies	Continental Companies
Gasoline	477,846,508	236,158,608	241,687,900
Lubricants	28,099,066	19,091,016	9,008,050
Miscellaneous	142,050,147	73,050,389	68,999,758
Total	647,995,721	328,300,013	319,695,708

The marketing territories of Virginia, Delaware, Maryland, the District of Columbia, New Jersey and New York came into the new alignment through the recent acquisition by Marland company of the Prudential Refining Co., Baltimore. Through this unit, products are marketed through dealers in several other states in the southeast, going as far south as Savannah, Ga.

To move products from the several refineries, the new Continental will have 3,229 tank cars of which number 1,279 are leased. The Marland companies put into the merger 998 tank cars owned and 1,126 leased, and the Continental 952 owned and 153 leased.

The tie-up in refined products is noteworthy. Marland has well established its lubricating oil process and brand, producing as it does an adequate supply of crude well adapted to this manufacture. Continental has purchased most of its lubricants from other makers, selling under its own brand and carrying a line of oils of another trade-mark. It is expected that the Continental hereafter will manufacture most of its lubes.

The eight refineries are strategically located with respect to the marketing territory.

THE former Prudential plant at Baltimore will be operated on California and Texas crudes, in both of which states Marland has large production. Six tank steamers are now in service, four of which were acquired with the Prudential and two have been bought in recent weeks.

The two companies, as this is written, have combined gross production of 104,328 barrels, net 64,571. Of this amount the Marland has by far the largest part. Its gross production is 79,674 barrels and its net 48,488 barrels. Continental's gross is 24,654 barrels, net 16,083.

This is increasing, as the Marland

Properties Dovetail

holds a large amount of acreage in newly proved territory in Kansas. In number of producing wells, the two companies are almost on an even footing, Marland having 1,852 and Continental 1,849. Marland is currently drilling 61 wells and Continental 31. Net acreage of the two companies is as follows:

	Combined Total	Marland Companies	Continental Companies
Undeveloped	2,234,197	1,987,648	246,549
Developed	122,822	46,853	75,969
Total	2,357,019	2,034,501	322,518

Both companies hold acreage in Oklahoma, Kansas, Texas, New Mexico, Colorado, California, Arkansas, Louisiana, Montana and Wyoming. Marland in addition owns undeveloped acreage in Nebraska and Utah and producing properties in Mexico while Continental has acreage in Arizona.

Marland holds a large interest in the Hudson's Bay-Marland Oil Co., Ltd., which owns the oil and gas rights to several million acres in the western provinces of Canada. Some of the acreage is proven for gas and an exploratory program is being carried forward by this subsidiary.

Both companies have production in California and considerable potentially productive acreage in that state and both have large holdings in New Mexico in areas where critical wildcatting campaigns are being carried on by a number of operators. With their prospects in the Mid-Continent and West Texas, it is considered certain that production this year will be considerably increased.

Combined mileage of oil and gas pipe lines of the two companies is 1,736 miles. Of this Marland has 247 miles of gas line and 634 miles of oil pipe line. Continental has no gas lines and 855 miles of oil lines.

The two companies are interested in 20 gasoline plants, gross, with net interest amounting to nine for the Marland, and four for the Continental.

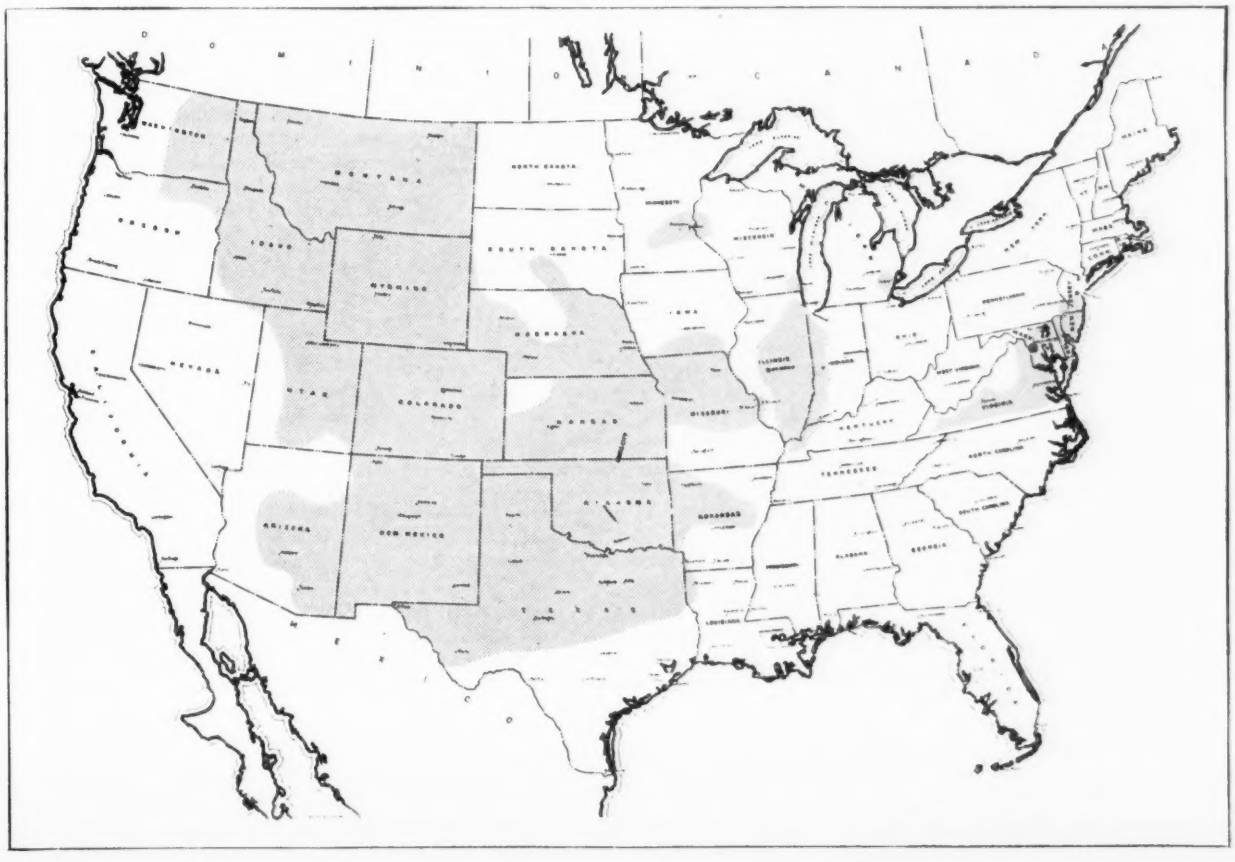
Marland has 13,776,916 barrels steel storage capacity and Continental has 4,654,266 barrels. The oil in storage at this time is as follows:

	Combined Total	Marland Companies	Continental Companies
Crude oil, bbls.	6,308,837	4,819,130	1,489,707
Refined products, bbls.	3,554,813	2,253,809	1,301,004

Both companies operate through a number of subsidiaries. Those of the Continental are the Chappell Oil Co., The Frantz Corp., Union Oil Co. Contract.; Home Oil & Supply Co., Fort Collins Producing Corp., Paramount Lubricant Co. of Utah, Westcott Allen Oil Co., Burke Oil Co., Continental Oil Co. of Arizona, Western Gillespie System, Inc., Boston Wyoming Oil Co., Merritt Oil Corp., Sapulpa Refining Co. and Continental Pipe Line Co. of Texas.

Subsidiary to the Marland Oil Co. are the following: Marland Refining Co., Kay County Gas Co., Marland Pipe Line Co., Kansas Osage Gas Co., Ponca City Gas Distributing Co., Marland Oil Co. of California, Marland Oil Co. of Mexico, S. A., Marland Production Co., Marland Products Export Corp., Hudson's Bay-Marland Oil Co., Ltd., Marland Industrial Institute and the Sealand Petroleum Co., Ltd.

Shaded portion shows territory in which the Continental Oil Co. will be a retail distributor of gasoline and other products after the merger with Marland Oil Co.



Review of Late Production News

ANOTHER new high in domestic production was reached in the week ended June 1. The daily average of 2,711,650 barrels was a gain of 21,300 barrels over the previous week, according to the American Petroleum Institute.

Crude oil imports, which had reached the unprecedented figure of nearly 400,000 barrels daily average the previous week, fell off 142,143 barrels the week ended June 1, to 238,-714 barrels. This brought total new crude supply to 2,950,364 barrels, compared with 3,071,207 barrels the previous week.

Santa Fe Springs again furnished the largest change of any individual field, output there rising 21,000 barrels, daily average.

Other larger changes during the week were: Gray county, up 11,150 barrels; Howard county, up 2200; Pecos county, down 5150 barrels; St. Louis pool, down 3850; Earlesboro, down 2500 and Winkler down 1600 barrels.

Oklahoma-Kansas

WITHIN the next week or 10 days more will be known about the production possibilities of the Oklahoma City field. Thus far the 6500 foot level still is producing from only one well. Some five other wells are within striking distance of the sand.

The new Asher field now has four wells producing 9000 barrels per day. Other holes will be completed soon. North of the producing wells the tests now drilling appear to be running unpleasantly low.

In Sedgwick county, Kansas, the 68 producing wells yielded an average of 33,088 barrels per day last week. One new well was added. Since discovery last summer the field has produced 2,704,851 barrels of oil. Western Kansas wildcatting produced no important results during the week.

California

ALTHOUGH an estimated curtailment of 74,000 barrels per day is being maintained in California, production figures soared to new high levels for week ending June 1. Estimated state daily average production was 781,000 barrels.

General order No. 4, containing the new machinery for prorating California fields, became effective at 7 o'clock June 1. This order contemplates a cut of 199,394 barrels per day in the state's total, exclusive of new wells completed and placed on production subsequent to May 21.

It is hoped that many small operators who have failed to comply with previous orders will fall in line because of the new provision which cuts production only 15 per cent in wells producing less than 500 barrels and exceeding 20 barrels. The cut on wells producing less than 20 barrels is 10 per cent, and those producing in excess of 500 barrels have a tentative curtailment of 34.33 per cent.

This last mentioned figure is derived by cutting all wells whose production is in excess of 500 barrels an amount sufficient to bring the state's daily average crude oil production down to approximately 650,-000 barrels per day.

Santa Fe Springs with 7 completions and recompletions, 5 of which were in the O'Connell zone, reached a new peak of nearly 200,000 barrels per day. There is an estimated daily curtailment of 20,000 barrels, whereas general order No. 4 calls for 52,440 barrels.

Long Beach had three small completions and recompletions to give a field total of 170,000 barrels. Instead of a daily curtailment of 27,-636 barrels, as called for in order No. 4 Long Beach operators have shut-in only 14,000 barrels. Natural decline caused a drop in the potential production of this field of 24,557 barrels, since general order No. 3 was issued.

The daily average production at Long Beach has taken a downward trend during the past few weeks and, while there is a possibility that some of 130 wells now drilling may cause a slight upward swing, it is hardly likely that future production in this townlot area will hinder proration plans.

Active drilling within the near future was assured for the new oil field east of the Palisades tract, three miles west of the city of Santa Barbara. The City Council adopted an ordinance May 31, to lift the restrictions against drilling projects of that area and approved 34 of the applications for permission to drill. Drilling will not start on these wells for 30 days and as a large part of the supposed oil structure will be opened to prospecting by the action of the Council, numerous other applications are expected for permits to drill.

Reports are that Olympic Oil & Refining Co. will erect an 80,000-barrel storage tank on the Mesa 200 feet west of its Lomas No. 1 discovery well of the Santa Barbara field.

Plans are also under way to erect an absorption plant near there to take care of 1,500,000 cubic feet of gas from the Olympic well and any future production of natural gas.

Several strings of casing have been run and set below the 6000-foot level at Kettleman Hills and there is promise of early production.

Texas, New Mexico, Louisiana

GAS in the B-1 University test of Buell & Hagan, sec. 36, University block 18, turned attention of West Texas operators to this Pecos county wildcat at the end of the week. The well was reported making 3,000,000 to 4,000,000 cubic feet of sweet gas from anhydrite formation at 1320 feet. It is about two miles west and a mile south of a wildcat test of Transcontinental Oil Co., which showed water earlier in the week.

Wildcatting in Lea and Eddy counties, southeastern New Mexico, has failed to develop more significant oil shows than previously recorded. The two best wells there are the Skelly Oil Co.'s No. 1 Joyner, an old completion in 26-25S-36E, initial production 438 barrels at 3331-340 feet, and The Texas Co.'s Lynch, in 34-20S-34E, which swabbed 639 barrels in 12 hours at its best. The Lynch well is now closed down while The Texas Co. builds storage.

Gulf Coastal Louisiana and Texas operations were virtually at a standstill over the week because of serious flood conditions in both divisions of the general region.

Production Engineers and Operators Study Gas Lift Practice

By Lawrence E. Smith
N. P. N. STAFF WRITER

TULSA, June 1

TWO questions have caused Seminole district operators much thought since the original installation of gas lift early in the life of the field. One is whether the ultimate production has been increased over what it would have been had pumping and swabbing been the producing methods. The other is what stage should the well be taken off the gas lift and put to pumping or swabbing.

These and many other phases of gas lift practice in Seminole were discussed in the May 28-29 meeting of the American Petroleum Institute division of development and production engineering, Mid-Continent section. There was also a well prepared paper on straight hole practice, published in this issue.

The meeting was attended by 275 engineers and field superintendents. The latter class was well represented. Early this year the Mid-Continent section under the direction of Chairman J. R. McWilliams, of the Skelly Oil Co., began the organization of field chapters. Five have been formed: in Burbank, Eldorado, Kans., Seminole, Tonkawa and Drumright. The work was divided into two broad headings, drilling practice and production practice. Charles Jacobson, of the Barnsdall Oil Co. is chairman of the drilling practice division of the Mid-Continent section, and C. P. Dimit, Gypsy Oil Co. of the production practice.

The method of preparing the two papers which constituted the program was unique. By the questionnaire method, the opinions and experiences of some 15 companies operating in the Seminole district were developed. Mr. McWilliams then compiled the answers on gas lift and W. K. Whiteford, Barnsdall Oil Co., wrote from the replies the paper on straight hole practice.

The program and the attendant entertainment features of the meeting drew warm praise from two national officers, John R. Suman, national chairman of the A.P.I. division and Carl A. Young, executive secretary, who were present.

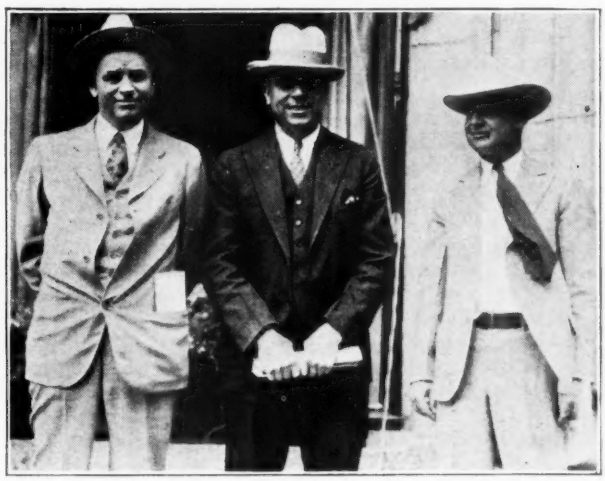
On the entertainment side there was plenty going on. Those who registered were given tickets to a wrestling match the first evening and on the afternoon of the second day the golfers participated in a tournament while others were given aerial sightseeing trips and a visit to the Spartan Aircraft Corp. plant northeast of Tulsa. The Reading Iron Co. entertained a large number at luncheon the first day.

Reverting to the two major questions on gas lift practice mentioned at the start of this account most of the people who answered the question asserted that the ultimate recovery of oil in the Seminole field had been increased by the use of gas lift.

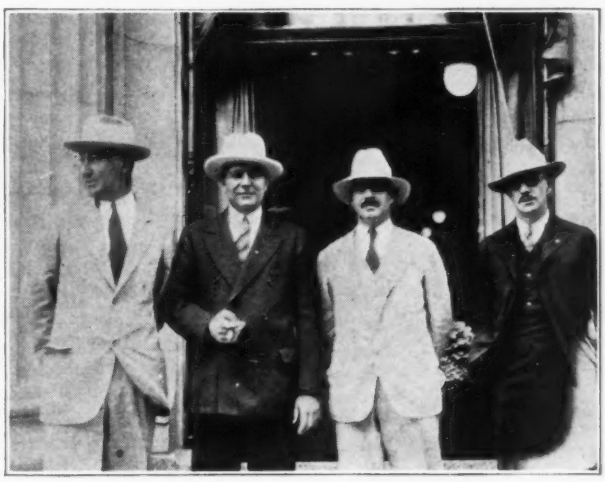
Reasons given for this belief were: Wells on gas lift have been produced with lower formational gas-oil ratios; big daily production was maintained early in the life of the wells when rock pressure was high; rock pressure in the producing horizon is conserved by gas lift; there is a definite back pressure with gas lift; water encroachment is universally retarded by gas lift; decline curves have been flattened and production sustained; production on gas lift is more rapid and a greater use is made of both the formational gas and the gas in solution, while swabbing and pumping do not affect this result.

ONE operator said that swabbing and pumping would have produced a greater ultimate quantity because the water encroachment would have been slower and would have cleaned the sand of more oil. Thus, there are two opinions on the water encroachment phase of the question.

As to when a well should be taken off the lift and put to pumping or swabbing, eight operators said they used swabbing only to clean-out; one said his company tested on swab at 400 barrels production. One put the mark for changing from lift to pumping at 50-100 barrels daily production; one at 75 to 80 barrels; two at 100 barrels; two more at 200 barrels and one at 250 barrels. One said he put a well to pumping when



Three Barnsdall Oil Co. men who "get the grease." Left, Charles Jacobson, general superintendent, central division chairman of drilling practice committee, Mid-Continent section, A. P. I.; center, Don Burch, rotary drilling superintendent, Seminole area, and Lloyd Summers, in charge of gas lift operations, Seminole district



Some of the folks who manage the division. Left to right, Carl A. Young, national executive secretary; J. R. McWilliams, Skelly Oil Co., Mid-Continent chairman; Walter H. Meier, Atlantic Oil Producing Co., secretary, Texas-Louisiana division, and C. D. Watson, Carter Oil Co., former chairman of Mid-Continent section

compressor capacity was needed elsewhere, governing his changes by that consideration.

It was agreed by a number that it is possible to produce more oil by swabbing than by gas lift after pressure on the sand has declined, as swabbing reduces the pressure on the sand. One mentioned the Misener sand, productive in the western part of the Seminole area, as responding better to swabbing than to the lift, attributing this to the looseness of the Misener sand.

Some interesting cost figures on the three methods were developed. An average lifting cost by using gas lift, summarizing all the replies, was placed at 10.1 cents per barrel. They agreed on a maximum of 60 cents, which would apply in extreme cases. On the pump, the average was placed at 27.4 cents and swabbing, placed on a cost per day basis, was $84 average. These, it is understood, are operating costs only, having nothing to do with equipment costs.

Throughout the discussion on gas lift, the present day practice was emphasized. Little contrast was given with the methods used when the field was young. Concerning this, C. P. Dimit said prefacing the reading of the gas lift paper:

"Perhaps the first installations of air-gas lift units in the Seminole area were not to be compared with the present day modern plant, but in my opinion the operators met the situation in a remarkable manner and advanced to more efficient plants very rapidly. Many factors control the installation of air-gas lift plants, among which of greatest importance are the size and location of property—in other words, the amount of acreage involved—competitive drilling, initial production and character of sand.

"It is my opinion that two of the greatest improvements in air-gas lift operations have been, first, improvement in general design of plant hookup and, second, the bringing about of a closer relation in the operation of these plants with the operation of gasoline plants. The latter has raised the efficiency of both and resulted in conserving large volumes of gas."

The paper on gas lift took the operator pretty well through all stages of operating, from installation to method of handling the equipment and wells. On plant design, the compressors were divided into three types:

A—Compressors driven by two or four cycle gas engines.

B—By multicylinder gas engines.

C—By electric motors.

Type A, it was agreed, has the advantage of low cost operation per horsepower, high salvage on machinery, it is suitable for gasoline plants or repressuring after salvaging, slower speed machines with longer life and high percentage of running time. Disadvantages: Higher first cost, operating cost higher if fuel gas must be purchased, time required for installation.

Type B has the advantage of rapid installation, lower installation cost, portable installation where electrical power is not available. Disadvantages are high maintenance cost, low percentage of running time, high speed machines with more rapid depreciation, increase in fire hazards in engine rooms.

The advantages of Type C were asserted to be low initial cost, speedy installation, can be erected on timbers, high percentage of running time, minimum depreciation and high salvage. The disadvantages are high cost of operation because of electrical power, the usual size motors are not suitable for other work economically and there is no ready sale for the equipment.

Publication of the complete text of this paper is prevented by its great length. While opinions on many of the phases of gas lift operation were in conflict, the compiled answers to the questionnaire give a good guide, with definitions, to the methods used in the Seminole district. The paper will appear in an early issue of NATIONAL PETROLEUM NEWS.

* * *

National Chairman Suman told the meeting of the aims of the division. The recipe for its success he expressed as follows:

"This work will be successful if all those persons connected with the producing end of the business will enter into it wholeheartedly. I mean by this, all those persons connected with the various phases of the industry, such as field foremen, superintendents, drillers, contractors, farm bosses, purchasing agents, supply men and petroleum engineers.

"I would point out here that this division of the American Petroleum Institute is the only organization which does offer an open forum to these very essential classes of oil field employes. . . .

"From a national standpoint I might say that we are striving to attack the problems in order of their relative importance. When all of the sections have turned in their compilations on a certain subject, we intend to publish bulletins which will give a complete report on the practice in the United States.

"We have just gotten out a volume entitled 'The Function of Natural Gas in the Production of Oil' which is a complete summarization of what is known on the subject at this time. Later on we intend to get out bulletins of the same character on 'How to Drill Straight Holes,' 'Cementing and Water Shut-off Practice' and 'Gas and Air Lifts' and numerous other subjects."

* * *

The golf tournament, a "kickers' handicap," was run off at the Oakhurst Country Club on May 29 with about 20 stalwart A.P.I. divot diggers participating. It developed after everyone had made the round that 88 was the winning number. Three tied for first place and the rankings were decided by use of a deck of cards. F. A. Husler was thus first, John R. Suman second, and Carl A. Young third. A. E. Butts won fourth prize. Prizes were golf clubs.

* * *

Drilling contractors were present in force to hear the paper on straight hole practice. The division, by its choice of title for the paper, agreeably varied an old theme. All former documents were styled essays on crooked holes.

* * *

Visitors from other states were eager to learn of the Mid-Continent section's plan of organizing field chapters. The meetings of these chapters are held at points centrally located in a producing district and have been enthusiastically received. Much credit goes to Chairman J. R. McWilliams for the enthusiasm he has put into this work, and to the several engineers who have assisted with the organization plans. No attempt is made to outline the work for these chapters, the field superintendents and engineers choosing their own topics for discussion.

A.P.I. Accounting Men Meet in September

NEW YORK, June 1.—The General Committee on Uniform Methods of Oil Accounting of the American Petroleum Institute will meet in September for final consideration of the work of regional committees on detailed charts of accounts covering fixed assets and income and expense accounts. M. W. Mattison, director of the institute's division of taxation and accounting, has just announced the meeting.

The division has held four regional meetings this year, and a fifth will be held by the California regional committee within the next 30 days.

The committees and their chairmen are: Appalachian, F. S. Reitzel, Sun Oil Co., Philadelphia; Eastern, C. B. Ware, Standard Oil Co. of New Jersey, New York; Texas-Louisiana, Gay Carroll, acting chairman, Humble Oil & Refining Co., Houston; Mid-Continent, George F. Winters, Tulsa, and California, George H. Forster, Union Oil Co. of California, Los Angeles.

It is planned to prepare this year separate charts of accounts for each of the major divisions of an integrated company as disclosed in the general balance sheet already adopted by the institute, Mr. Mattison said.

Straight Hole Drilling Practices Followed in Seminole

As presented May 29 before the Tulsa meeting, Mid-Continent section, American Petroleum Institute Division of Development and Production Engineering

SINCE the subject of crooked rotary holes in the Mid-Continent, and more particularly in the greater Seminole area, has become of such widespread interest there has been considerable interesting data published as to how crooked various holes were and what effect these crooked holes had on the tangible drilling costs and the more or less intangible production costs. The geological difficulties caused by crooked holes have also been well covered.

From the stimulus of these papers, which clearly show the necessity of drilling straight holes, the oil company executive, field superintendent, engineer and contractor have been for the last few months earnestly endeavoring to determine the cause of crooked holes, to the end that those factors within our control that determine the straightness of the rotary hole, be properly regulated.

A study of the well survey records of the wells drilled since this concerted effort was launched reveal as a whole very gratifying results.

The subject was attacked from all angles and many different theories exist as to the extent to which the different factors enter into the problem. It seemed, therefore, that this was a good time to pause a moment in our labor to take stock and to compare ideas and opinions against recorded performance.

By comparing notes, so to speak, at this stage it might serve to clarify the problem by demonstrating what we have learned so far and what further work we must do to improve our straight hole drilling practice in the Mid-Continent.

With this comparison in mind, a questionnaire was formulated and sent to many of the rotary drilling contractors of this section. This questionnaire was designed to bring out the extent of our present knowledge on the subject, as well as ideas and opinions as to future practice. The contractors' answers to these questions, concerning the methods employed to keep the hole straight, were as far as possible, checked against the oil companies well survey records.

The majority of opinions of those contractors that the records showed had drilled the straightest holes, was tabulated, factor by factor, and put together as a sort of symposium on straight hole practice. Please remember that there is no thought that this is the final answer to the problem of drilling straight holes, but merely a correlation of our present knowledge from the number of comparatively straight holes that these contractors have drilled.

Many of the contractors, through their experience in drilling these holes in the past months, have worked out interesting ideas and plans for future improvement in their methods, and those ideas that seem to be well founded and of a type to stimulate profitable discussion at this meeting have been included in this paper.

Before starting on the questions themselves we would like to mention one point that the questionnaire brought out forcibly—the need for the contractors to keep better records of their *own* operations. Many of them were very hazy and indefinite on important factors and in some cases gave answers that showed a complete lack of understanding of the basic principles under consideration.

It would seem highly important, considering the size of the financial investment at stake and the crooked hole penalty enforced by many of the companies in having the contractor plug off his crooked hole at his own expense, that the contractor should keep a close check on all phases of his drilling operations that affect the straightness of his hole. On one question there was practically one hundred per cent agreement, and that was, as you can probably guess, that the oil companies were not paying the contractor enough money.

The response to the questionnaire was very gratifying and the Drilling Practice Committee would like to take this opportunity of thanking the contractors, the oil company superintendents and the engineers who participated, for their generous cooperation.

The proper weight in pounds per square inch to use in drilling a straight rotary hole, as indicated by the weighing devices now in common usage, has a rather wide range to judge from the reports received from more than thirty representative drilling contractors. At first thought it may seem strange that so wide a variation between minimum and maximum recommended weights should exist in the same area. After a little consideration of the obstacles entering into the solution of the problem and a review of the meagerness of our present information it is easier to understand the situation.

FIRST: Recommended weights have been worked out, for the most part by the trial and error method, but enough time has not elapsed or enough data been collected to allow closer limits to be accurately determined. Secondly, the instruments for measuring the weight carried on the bit do not appear to be reliable enough to be sure of the accuracy of the indicated load in terms of pounds per square inch on the bit head. This question is taken up more fully later. Probably, in recognition of this fact, several contractors have indicated the weight

Technique of Straight Drilling

THAT a technique of straight rotary hole drilling is being developed among contractors in the Mid-Continent field is brought out in the accompanying paper compiled by W. K. Whiteford, Barnsdall Oil Co.

The data found in it was secured from the experience of Seminole district contractors, gathered by the drilling practice committee of the Mid-Continent section, of which Charles Jacobson, also of the Barnsdall Oil Co., is chairman.

The article goes in detail into the practices and equipment used by Seminole contractors and brings out that emphasis is placed now upon drilling straight holes rather than speedily completed ones. A number of changes that have been made in the equipment used are brought out.

they carry in the gauge in terms of "points" rather than pounds.

A tabulation of the recommended weights shows a range from minimum to maximum of from 2000 to 30,000 pounds. However, in checking over the weights carried by contractors who have drilled the straightest holes, the range would seem to lie between 7000 pounds per square inch for shale to 12,000 pounds for lime, with the average about 9000 to 11,000 pounds. These weights, of course, apply to 6-inch drill pipe and are for the most part taken from the greater Seminole area.

It seemed to be almost unanimous that it was advisable to change the indicated weight when drilling from a soft to a harder formation, or vice versa. The amount of change in weight to be carried varied from 2000 to 8000 pounds. Some contractors increased the weight carried in shale over the weight carried in lime, while some preferred to carry the greater weight in the lime. Several contractors who have a large number of straight holes to their credit recommended taking practically all the weight off the drill stem upon striking a harder formation until the bit had started a full gauge even hole and was running smoothly, and then slowly increasing the weight to maximum.

THE disc, fishtail, and special cutter bits should carry less weight than the rock bit. From 2000 to 5000 pounds less weight was unanimously recommended, with the exception of one contractor who recommends from 3000 to 4000 pounds more on a disc bit than on a rock bit. He has straightened up holes in this way when no other method seemed to work. He accompanied this increase in weight with a rotation of from 60 to 65 revolutions per minute of the rotary table.

Most answers concerning the speed of rotation for a given weight indicated that this factor is considered of major importance in the matter of drilling a straight hole, but also that at the present time we do not have sufficient data to determine just what the relation should be between speed of rotation of the weight carried on the bit. Several expressed the opinion that, in the solution of the proper ratio between the speed of rotation and the weight carried, drilling through the different formations would result in higher cutting speeds per unit of time at a less cost per foot, thus increasing the drilling life of our various bits and the drilling of straighter holes.

About half of the contractors increased the weight on the bit as the cones or cutters dulled. It would seem that in the case where the bit head was already carrying the maximum recommended weight that this practice would result in forcing or crowding the bit, thus causing the bit to drill off center. The well surveys of the holes drilled by contractors who do not follow this practice would seem to bear out this idea, as they have drilled the straighter holes.

To use the words of one man who has spent considerable thought and time working on this point, "The best results are obtained, as a rule, by establishing a certain cutting rate per hour, depending on the nature of the formation being drilled, and when the cones become dull to a point where they will not cut this rate of footage without adding more weight, pull the bit out of the hole." The footage cut to the set of cones with this procedure is very close to the average obtained under former conditions when greater weights were carried on the cones. In other words, by using the proper weight the cones will have a better cutting action and cut practically as much hole as in the case where they are crowded.

The speed of rotation recommended in respect to the weight carried on the bit ranged from 35 r.p.m. to 50 r.p.m. for shale and from 50 r.p.m. to 80 r.p.m. for lime, 55 r.p.m. seemed to be the most favored speeds of rotation. A large number of contractors recommended slower speeds of rotation if the weight carried on the bit is increased. Disc and fishtail bits should rotate faster than rock bits. The slower speed of rotation on the rock bits was claimed to lessen the wear on cones, brushings and drill pipe and to prevent the pipe from whipping the walls and causing unnecessary caves.

Depending upon the formations and, up to certain limits, the more weight put on the bit the more hole cut was the majority of opinions in the questionnaires. To just what maximum limits of weight this ratio extends was not stated, except that the weight limits recommended in drilling straight holes was held to be a great deal less than the weight that would drill the maximum footage per day. There is not enough data available at the present time to say just how much less hole per unit time is being cut under the lessened weight necessary to drill straight holes, but from the information at hand, the gap is not so large as most contractors seem to think.

L. B. Holland

Production engineer, Phillips Petroleum Co.

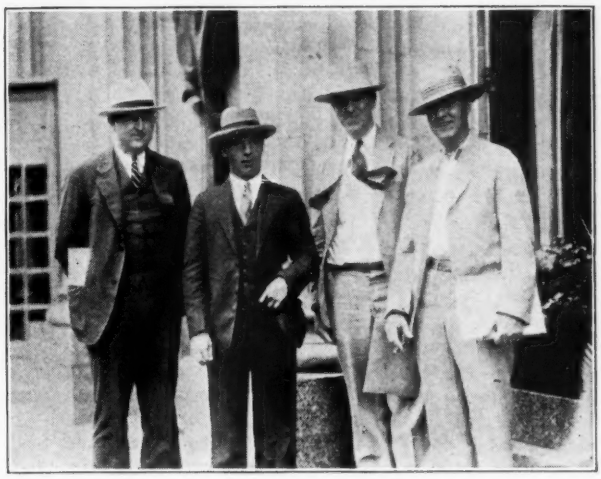
Mud Fluids:

THE consistency of mud fluids is considered important in drilling a straight rotary hole only in so far as it prevents the hole from caving. It was the consensus of opinion that cavings in the bottom of the hole had a tendency to drill off to one side of the true bore. Mud of improper consistency would allow side walls to break down under the action of the turning drill stem and this sloughing in would enlarge the diameter of the hole, thus depriving the drill pipe of its needed side wall support. No specific data was offered that would enable one to show the extent to which the proper consistency of the mud fluid would aid in keeping a hole straight.

This subject of the proper use of mud fluids would seem to warrant considerable more attention in the Mid-Continent from other angles aside from that of aiding in the drilling of straight holes. From 8 pounds per gallon to 12 pounds per gallon was recommended for the proper weight of mud in straight hole drilling.

As water weighs approximately 8.33 pounds per gallon, mud weighing only 8 pounds per gallon would probably be fairly light. Many contractors said they had never paid any attention to the mud except to regulate it as to its cuttings content, for protection to their pumps, and for the type of formation being drilled. They carried their mud as thin as it was possible to do and still be able to prevent the hole from caving, in order to keep the bit free from cuttings, thus facilitating the drilling speed.

From the Bureau of Mines investigation of over 100 wells it was established that, in the greater Seminole area, the general practice has been to start drilling with clear water; the weight of the mud as the drilling progressed usually depending upon the amount of mud the hole made. Samples from 1500 feet averaged only about 9 pounds per gallon. As the drilling progressed this weight increased to about 10 pounds per gallon, but whenever it rained it would decrease to 9 or 9.5 pounds per gallon. The maximum weight which the Bureau of Mines found anywhere, except when the mud was weighted to control high gas pressures, was 11.5 pounds per gallon, with the general



Production engineers of Shell Petroleum Corp. Left to right, G. C. Wolfe, R. T. McNally, Wallace H. Collins and Reid W. Bond, chief of the department

An Indian Territory Illuminating Oil Co. engineering trio. Left, T. A. Stevens, of the Oklahoma City staff; M. J. Kirwan, chief engineer, Bartlesville, and H. B. Thomson, production engineer, Seminole district

average about 10 pounds per gallon.

The use of mud-laden fluid in "spudding in" a well was not considered of very great importance by a large majority of the contractors. A few, however, made the point that from 1200 to 1500 feet of hole is often drilled before the drilling fluid is much more than water, and they feel that this is poor practice. A little work is being done now on the use of mud-laden fluids of about 10 pounds to the gallon for "spudding in," and the acid bottle records of the first 1500 feet of these holes indicate that there is an appreciable advantage in this practice.

The opinion of the effect of so-called high circulating fluid pressures in the drilling of straight holes seemed to be pretty well divided. There were theories offered on both sides of the question, but, due to the lack of any sustaining data, this question will be left for discussion which may bring out specific information that will throw more light on this subject.

There has been much discussion, both oral and written, on the effect of the large mud pumps now in common usage. A review of the answers on this question would seem to exonerate the big "mud hog" from any great amount of blame for crooked holes.

The claim is that the larger pumps run at slower speeds in handling the same volumes than do the smaller pumps, and therefore, have a longer life and that where certain formations are encountered the large pumps are necessary to keep the bit free from cuttings which otherwise would seriously impede the speed of drilling. While the smaller pumps still have some advocates, the larger volumed, higher pressured pumps with the 16, 18, and 20-inch stroke are the favorites.

The majority of the contractors do no change the speed of their pumps when drilling from one formation to another, as they are of the opinion that practically all the formations encountered in Oklahoma are hard enough to prevent easy washing. A few contractors, however, that have had better than average luck in drilling straight holes, advise that they slow up the pump somewhat when leaving a shale formation and entering a lime or other hard formation.

Equipment:

THERE was a remarkable unanimity of opinion expressed to the effect that the present rotary equipment was very well suited for the drilling of straight holes.

The use of heavier and stiffer drill collars was suggested particularly by that group of contractors that does not favor the use of special side reamers and the further development of hydraulically, electrically, or mechanically operated weight control machines. Mechanism that would accurately regulate the actual weight imposed on the bit was thought by many to be the next logical step in improving our present equipment.

One careful observer felt that the basic design of nearly all of the rotary bits in general usage will have to be changed before the problem can be completely solved. It was pointed out that in some bits the fluid ports were so placed as to aid in the hole going crooked, while other bits had their cutters so placed that the rotation of the bit itself would tend to cut eccentric circles instead of rotating concentrically around one axis.

It was interesting to note that a large number of the contractors felt that the rock bit, at least in the greater Seminole area, was the most satisfactory bit from the top to the bottom if a straight hole was desired. The records on the more recent wells of several contractors who used nothing but rock bits showed straighter holes than did their previous wells drilled in the same areas and under as nearly as possible, the same conditions with other types of bits.

The main objection to the use of side reamers was the increased hazard in the case of a fishing job. Some contractors felt they could drill as straight a hole without the aid of side reamers. However, the straight hole records on several wells drilled recently in the same area showed consistently straighter bores from top to bottom for those holes using the side reamers than it did for the holes drilled without the aid of any guides. Without the reamer the holes would show a deviation from vertical of from 3 to 9 degrees for the entire hole while those using the guides were only 1 to 2½ degrees from vertical. Of the wells drilled recently, of which we have records of those which have stayed within a maximum of 5 degrees from vertical, the larger majority have been drilled at least part way down with guides of some description.

Some contractors have worked out special equipment for centering their bits. One of these, a triple, three-point roller bearing straight hole guide has been developed that works within three feet of the bit in starting the hole. The rollers in the guide are smooth and have no reaming action, in fact they exert a rolling effect against the walls which has a tendency to smooth up and keep well mudded the sides of the hole, thus helping to prevent caves.

After surface casing has been set this guide is moved to a point 15 feet above the bit and is left at this location during almost the entire drilling of the well. In soft formation,

where there might be a boulder projecting part way into the well and the bit might have a tendency to crowd out a little, while passing the boulder this guide would help to bring the bit back into vertical position. Twenty feet above this guide a double, three-point reamer with cutting edges is used, and when this reamer comes in contact with any projection it will have a tendency to cut any irregularity of the hole off thereby straightening out the hole. This double three-point reamer has directly above it a 30-foot joint of six inch with a joint of eight inch welded over it, this being termed a "lace joint", and directly above this lace joint is another double, three-point reamer with cutting edges. Experience in using these guides and reamers has resulted in very straight holes.

A NUMBER of contractors said they used a reamer for the first 2500 to 3000 feet and found that, if the hole was straight to this point, there was not much danger if reasonable care was used of the hole not going straight the rest of the way.

We have already spoken of the opinion expressed by the contractor that a longer and stiffer drill collar would be of material aid in keeping the bit centered on a vertical axis. One contractor, in particular, who had been using the regular 10-foot drill collar, 7¾ inches in diameter had a special drill collar made, 28 feet long and 9½ inches in diameter and weighing 200 pounds to the foot. He is using this in drilling 11-inch hole and reports very favorable results over the lighter and shorter drill collar.

The 9½-inch diameter with the extra length would prevent, theoretically, if the walls of the hole were firm and regular, the axis of the bit from getting very far away from the axis of the 11-inch bore. Enough clearance is left, however, to wash over the drill collar with 10-inch wash pipe. In making these longer drill collars it was suggested that they be made in sections of 10 feet instead of 20 feet to 30 feet lengths, with the idea that the shorter sections are not so apt to kink. The use of these heavier drill collars should eliminate the kinking of the bottom joint which in the past has caused considerable trouble.

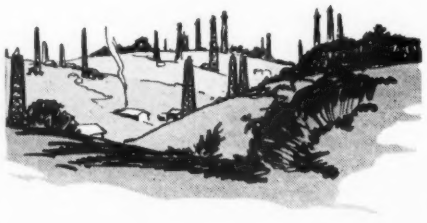
As to the advisability of increasing the wall thickness of the 6-inch drill pipe, the general feeling was that the range of weights now manufactured, which runs from 22 pounds to 30 pounds to the foot, was adequate for present purposes. Twenty-five pounds to the foot is commonly used in the Mid-Continent at the present time and this weight seemed to meet with general approval. It was conceded that a thicker walled pipe would give greater rigidity but there was the fear that a heavier wall would crystallize more rapidly under flexing and in addition to this it was considered doubtful whether a slight increase in the rigidity of the drill stem, when its extreme length was taken into consideration, would have much effect on the course of the bit.

Almost every contractor who responded to the questionnaire thought that the weight indicators in present use were accurate enough for their purpose, provided reasonable care was taken of the equipment. On the other hand not one of the oil companies' engineers who have attempted to check these instruments would agree to this opinion. They claimed that the weight recording instruments in present use were not only inaccurate, difficult to calibrate and calculate; but that they failed in any case to determine the weight actually being exerted upon the bit. Not being able to ascertain this actual weight accurately was, they felt, partly the answer to the wide variation in weights different contractors were carrying and for the different results obtained when the weight conditions were thought to be identical. It is interesting to know that, in the Mid-Continent at this time a weight indicator is being developed that appears to have most interesting possibilities.

Without exception the contractors put themselves on record as believing that the use of some form of weight indicator was essential in determining the proper relative weights to carry on the bit.

Opinion as to the value in the use of tool joints between each joint of drill stem was fairly evenly divided. A number of those that favored this practice did so from the angle of preventing the bending of the 30-foot length joints that are now in use and in eliminating the use of the "Greyhound" single, thus increasing the ease and speed of adding drill pipe to the string while drilling. From the straight hole standpoint many could not see much value in this use of the tool joint, as the A.P.I. coupling has the same external diameter as does the standard tool joint. It was thought that any additional rigidity in the drill stem which would help materially in drilling a straight hole should be located in the first 200 feet from the bottom.

The drilling of straight holes will have a material effect in increasing the life of drill pipe but little effect, if any, on the rest of the equipment, according to answers to this question. Straight holes will not only cut down the early fatiguing of pipe due to the severe flexing it receives in crooked holes but will reduce the abrasive wear the pipe receives from the side of the walls, which of course is at its worst in crooked holes.



The use of casing protectors in straight hole practice, which seems to be well thought of in California, does not meet with the approval of the Mid-Continent contractors. This is probably due to a difference in casing programs, as much of the California rotary drilling is done through casing, while in the Mid-Continent most of the rotary drilling has been done in open hole.

The relation between the diameter of the drill stem and the diameter of the drilled hole was considered of considerable importance by the majority of the contractors. An average of the recommendations as to the proper ratio of diameters is shown below:

6⅝″	Drill	Stem	—	11	to	12″ Bore
4″	"	"	—	8	to	10″ Bore
3″	"	"	—			6″ Bore
2½″	"	"	—			5″ Bore

For any bore over 14-inch, 8-inch drill stem, such as is being used to some extent in the deeper fields, was suggested.

The choice in boiler sizes and pressures lay between the 100-horsepower boiler carrying a steam pressure of from 200-225 pounds to the square inch and the 125-horsepower boiler carrying 250 pounds to the square inch.

The higher steam pressures (225 pounds-250 pounds to the square inch) were not actually required for drilling, was the claim, but saved considerable time in coming out of the hole aside from being more efficient and economical than the lower pressures. A good many expressed the opinion that the horsepower that the boiler or the steam pressures carried had little or no effect on the straightness of the drilled hole. There were a few that favored the 75-horsepower boiler and claimed that it could be handled much more easily in the field and that, if properly insulated, would give as much steam and a higher efficiency than the 125-horsepower boiler.

The statement was made that the boiler ratings as used in the oil country and approved by the American Petroleum Institute is in error and that the so-called 75-horsepower boiler will have an actual steam output of within 8 to 10 per cent of the larger rated boiler.

Commencing Drilling Operations:

JUDGING from the answers to the question concerning methods of starting and keeping the drill straight

during the "spudding" operations, the contractors have given this problem considerable thought and have worked out some very simple and ingenious methods of insuring a straight start. In the main these methods consist of ways and means of leveling and centering the rotary table and maintaining the vertical alignment of the grief stem until there is sufficient weight of drill pipe below the rotary table to counteract the weight above.

The following method of "spudding in" a well is sort of a composite description of the procedure followed by many of the contractors. The draw works are set so that the drive from the line shaft to the rotary drive sprocket will cause the center hole in the rotary table to be directly in the center of the derrick. The rotary table is leveled with a spirit level. After the lines are strung through the traveling block, line up the center of the spring hook with the center of opening in rotary table with a plumb bob by moving crown block and sheaves on the top of the derrick. When ready to make hole the grief stem is held in a vertical position, in most cases, by one of several systems of bridles or guides and the alignment checked every two feet with a level.

(*To be continued next week*)

Production Allotments Fixed By New Method on Coast

LOS ANGELES, May 31

THE latest proration order affecting California fields which is to be effective June 1, differs materially from Order No. 3 which has been in effect since May 16. A new method has been used in arriving at allowable production.

Under the new order allowable production is based on the volume of potential production of wells, regardless of their location in the state. Long Beach and Santa Fe Springs offer good examples of the effect of the new plan.

While the potential production from the Long Beach field has dropped, the allotted production has been increased, this is due to the number of small wells in this area that suffer only a 10 per cent cut, under order No. 4 whereas under general order No. 3 the entire Long Beach field production was cut 33.76 per cent. The difference between potential production and allotted production for this field was 71,347, barrels for order No. 3 as against 44,433 barrels for order No. 4.

In the Santa Fe Springs field where large producers prevail, and which therefore are cut 34.33 per cent under the new plan, the difference between potential production and allotted production is 52,439 barrels under order No. 3 and 64,011 in Order No. 4.

Other fields, in which there are a great many wells producing less than 500 barrels per day, show an increase in allotted production under the new plan.

The accompanying table compares potentials and allotments for Order No. 3, effective May 16, with those of Order No. 4 which is to be effective June 1.

California Potential and Allotted Production Under Latest Proration Order Compared with May 16 Order

NORTHERN CALIFORNIA DISTRICTS

DISTRICTS	Order No. 3 (May 16) Potential Production	Order No. 3 (May 16) Allotted Production	Order No. 4 (June 1) Potential Production	Order No. 4 (June 1) Allotted Production
Coalinga	10,207	9,092	10,452	9,245
Elk Hills	18,059	16,256	17,841	15,169
Fruitvale	349	314	347	295
Kern Front	10,398	7,800	12,054	10,073
Kern River	4,397	3,955	4,370	3,885
Kettleman Hills	3,590	2,693	3,500	2,298
Lost Hills-Belridge	4,789	4,053	4,554	3,993
McKittrick	4,773	4,295	4,779	4,145
Midway-Sunset	70,960	63,611	71,412	60,700
Mt. Poso Creek	7	7	7	6
Round Mountain	66	59	65	58
Wheeler Ridge	686	618	815	694
SOUTHERN CALIFORNIA AND COASTAL DISTRICTS				
Coyote, "West"	9,909	8,918	10,273	8,732
Dominguez	11,191	9,770	11,031	9,382
Elwood-Goleta	29,958	20,000	27,400	17,994
Fullerto-Brea-Olinda-East Coyote	15,095	13,585	15,571	12,902
Huntington Beach	47,150	42,257	44,934	37,457
Inglewood	26,033	23,427	24,988	21,240
Lawndale	1,073	966	1,105	837
Long Beach	211,354	140,007	186,797	142,364
Los Angeles-Salt Lake	1,184	1,066	1,127	1,002
Montebello	11,293	10,017	10,758	9,163
Newport Beach	46	42	43	39
Potrero	800	536	835	710
Richfield	16,441	14,787	16,386	13,593
Rincon	4,009	2,934	4,203	3,571
Rosecrans	6,460	5,820	6,260	5,333
Santa Barbara	.....	.....	900	591
Santa Fe Springs	177,447	125,008	211,571	147,560
Santa Maria	4,730	4,254	4,656	4,065
Seal Beach-Alamitos Heights	48,875	32,994	52,873	37,900
Summerland	130	110	119	107
Torrance	15,277	13,652	14,174	12,187
Ventura Avenue	54,768	49,291	67,266	48,112
Ventura County-Newhall	4,876	4,392	5,274	4,567
Watsonville	60	54	54	48
Whittier	1,891	1,421	1,700	1,529
State Total	828,331	638,061	850,494	651,546

Four Oil Companies Form Radio Public Utility

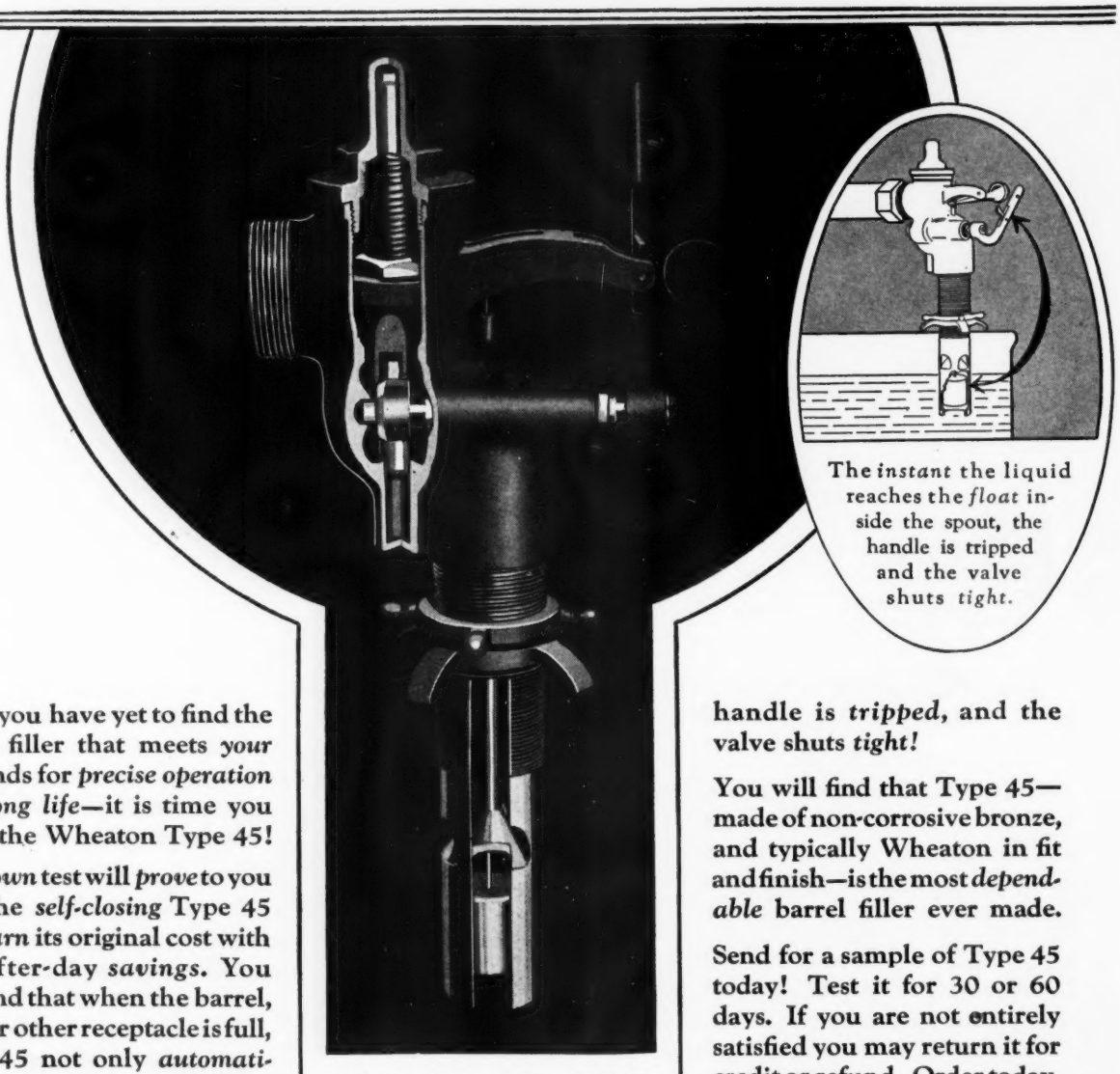
WASHINGTON, June 3.—Four oil companies who desire to use high frequency radio channels in point to point communication service within the United States, have formed a public utility radio communication company under the name of the Western Radio Telegraph Co., according to Horace L. Lohnes, assistant to Fayette B. Dow. The companies concerned in this action are the Texas Pipe Line Co., the Skelly Oil Co., Phillips Petroleum Co. and Marland Oil Co.

On Dec. 18, 1928, these companies appeared before the Federal Radio Commission making applications for license renewals on existing stations and permits for construction of new stations in the Mid-Continent field. It is now planned, Mr. Lohnes says, to turn over all the existing stations to the new company in order that more efficient utilization of the radio channels can be made and in order to make this service available to the public.

Appropriate action also was taken before the commission to turn over to the new company the applications of the individual companies. The Western Radio Telegraph Co. appeared at hearings on May 22 and 23 before the commission on behalf of its applications. Mr. Dow and Mr. Lohnes represented the company and C. M. Jansky Jr. was called as a witness.

Garfield Fire Clay Co., Robinson, Pa., has moved its eastern office to 1010 Harrison Bldg., Philadelphia, Pa. H. I. Robinson and D. J. Matheson will be in charge. The company has its plants for making fire clay refractories at Bolivar, Pa.

If you are looking for a BETTER Barrel Filler~



The *instant* the liquid reaches the *float* inside the spout, the handle is tripped and the valve shuts *tight*.

IF you have yet to find the barrel filler that meets *your* demands for *precise operation* and *long life*—it is time you knew the Wheaton Type 45!

Your own test will *prove* to you that the *self-closing* Type 45 will *earn* its original cost with day-after-day *savings*. You will find that when the barrel, tank or other receptacle is full, Type 45 not only *automatically* shuts off, but that the very *instant* the liquid reaches the *float* inside the spout, the handle is *tripped*, and the valve shuts *tight!*

You will find that Type 45—made of non-corrosive bronze, and typically Wheaton in fit and finish—is the most *dependable* barrel filler ever made.

Send for a sample of Type 45 today! Test it for 30 or 60 days. If you are not entirely satisfied you may return it for credit or refund. Order today.

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Wheaton Type 45 Barrel Filler

Type 45 works equally well with gasoline, kerosene and lubricating oil. And, by means of an *adapter*, it can be used with standard iron pipe thread, as well as special hose thread.

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FAUCETS · VALVES · JOINTS · COUPLINGS · FILLERS · NOZZLES · FITTINGS

THE coming Colorado Springs affair adds a broad touch of farce comedy to what was becoming a situation intolerably dull. The American Petroleum Institute tackled the job about the first of the year for the first time and set out to devise a coordinated plan. Admirably did they work and well did they plan.

Unfortunately, they made an excursion to Washington and were strongly—unnecessarily—advised that they must be plotting to circumvent some laws else they wouldn't have come over. Since that time they have been coasting along without much gas in the tank. Then the chairman of the federal oil conservation board, new in office and burning with zeal, decided it was his time to say something. Hence the interstate compact plan. It involves legislation.

Perhaps the chairman isn't wholly to blame, for the A.P.I. directors, at St. Louis this year, approved a resolution which said legislation was necessary to conserve oil.

The comedy of the Colorado Springs affair is obvious, there is nothing subtle about it. It promises to be a gathering ground for every panacea and poultice that has been invented in the last ten years.

Some attempt may be made to hold the talk to the compact channel, but we know our Texans and our Oklahomans and if there is any speechmaking to be done, they will be right there. Unless we are badly fooled, as usual, the tariff boys will have their say, the voluntary cooperationists will have theirs, the compulsory unit developers will have their Mss. in their inside coat pockets and their throats cleared. There will also be the folks who clearly picture a federal board, duly created by Congress, with themselves at its head.

The Colorado Springs meeting will not quite end the matter. There will be plenty of talk after that, but diminishing in force and finally dying away to a whisper.

The government will shoot its pistol, which is loaded only with a dud. It doesn't really believe anything will be done. It was merely the government's time to make a move.

The oil industry doesn't want anything like this compact idea to be put over and certainly the state's governors aren't going to let down the bars to the federal forces at all. They have lost too much individuality to Washington as it is.

To carry on this meeting properly, however, the press should be excluded. It has been customary for the A.P.I. to do things that way and as for ourselves, we wouldn't feel at home in the same room and breathing the same air with the planners of big movements.

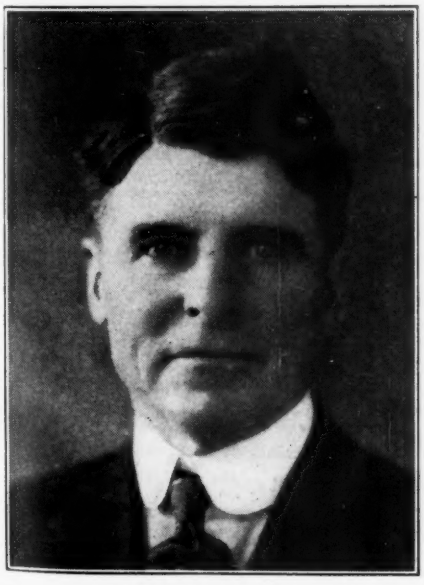
Word from Washington is that the little preliminary meeting between the federal board and certain oil men late in May was a closed affair. So we have hopes that no traditions will be violated in Colorado Springs.

* * *

It is ever a pleasure to make note of awards for diligent and intelligent service. Here we have with us three Prairie Pipe Line men, whose photographs adorn this page. All have contributed materially to the building of the world's greatest pipe line system.

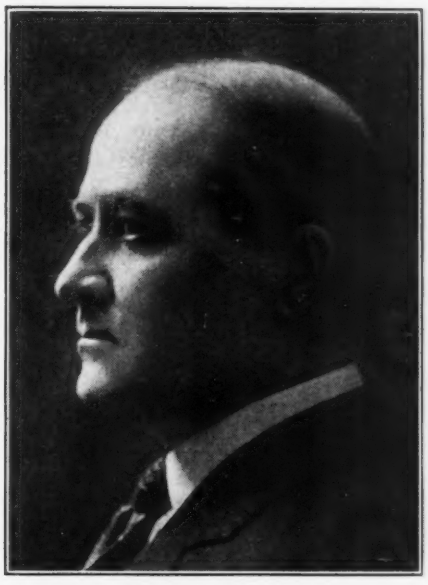
Pipeliners are a race apart. One of these days, when we are caught up with our music lessons, we plan to start an investigation to see why pipeliners are as they are.

You either get along with a pipe line man or you don't and you don't if you know nothing of his ways. For one thing, they are not talkative. They seem to believe the old Josh Billings saying that "Nothin' becomes a fool so much as a shet mouth." They apply it to all mankind and the bubbling, effervescent individual gets only a look of pained



John J. Linehan

M. E. Fannon



Thomas R. Lott

surprise if he tries any Greeters' Association hooey on a pipeliner.

These Prairie Pipe Line men are all hard workers who know no office hours. From the Blue Book of the company, which contains their service records, we note merely the general facts of their careers. Volumes could be written into and around those dates and events and those volumes would constitute an important part of the Mid-Continent's history. Here they are:

Martin E. (Eddie) Fannon. Born, Aug. 31, 1886, at Warrensburg, Mo. Entered service of the company March 20, 1917, as clerk in general office in Independence, Kans. Promoted, Jan. 23, 1918, to division superintendent's clerk, Ardmore, Okla. Oct. 1, 1919, appointed chief clerk in Tulsa office and assistant to general superintendent. June 1, 1929, promoted to be assistant to the general manager.

Mr. Fannon will continue to reside in Tulsa.

John J. Linehan, the new general superintendent of the Kansas-Oklahoma division, which includes the system as far south as Shawnee, Okla., was born Nov. 11, 1871, at Wellsville, N. Y. He entered the service of the Buckeye Pipe Line Co. on Dec. 1, 1890, as engineer-operator. On May 1, 1896, he was promoted to gauger, which work he continued until April 14, 1910, when he went with the Prairie Oil & Gas Co. as engineer on the Arkansas division. He was promoted to division superintendent Aug. 1, 1910 and on Feb. 1, 1915 was transferred to the Prairie Pipe Line Co. in the same capacity. On Aug. 1, 1921 he was promoted to assistant general superintendent.

The southern Oklahoma and Texas division of the Prairie Pipe is under the direction of General Superintendent Thomas R. Lott. Up to the recent death of George Coyle, Mr. Lott was assistant general superintendent, living at Eastland, Tex., and running the Texas division. He was born Oct. 1, 1872 at Gettysburg, Pa., and entered the employ of the Prairie Oil & Gas Co., Dec. 2, 1904, as operator-gauger. He acted in that capacity and as chief operator and oil buyer until Feb. 1, 1915, when he was transferred to the Prairie Pipe Line Co. as general superintendent's clerk in Tulsa. On Jan. 1, 1920, he was promoted to assistant general superintendent. Mr. Lott will continue to live in Eastland.

The northern division of the trunk line continues under the direction of General Superintendent C. E. McPoland, at Kansas City.

* * *

A few other personnel changes in the Prairie Pipe company have been announced. One is the resignation of Fred Thilenius, superintendent of the Texas Panhandle division, who has become manager of Mid-Continent territory for the Prescott Co., pipe line pumps makers. He is succeeded by R. G. Hinsley, who has been foreman at Cleveland, Okla. W. E. Brandeberry, chief gauger, succeeds Hinsley and Laurent B. Smith, chief tank strapper, becomes chief gauger.

* * *

Charles Grimes, of Tulsa, has been appointed a member of the Oklahoma textbook commission. A former school teacher in Ohio, he came to old Indian Territory to practice law. He entered the oil business in 1912 and has been at it ever since. He is a producer, natural gasoline manufacturer, and official of the Hinderliter Tool Co.

* * *

Walter Critchlow, oil producer of Ardmore, Okla., has recovered sufficiently from injuries sustained in an airplane accident three years ago to win the Oklahoma state amateur golf championship. He won out in a large field of expert divot diggers. George Johnston, of Tulsa, who sells White trucks, lost in the semi-finals after winning the Tulsa county championship a short time before.

* * *

Earl J. Broberg has been transferred by the Parkersburg Rig & Reel Co. from the home office to Tulsa where he assumes the field engineering duties of L. G. E. Bignell, resigned.

* * *

Born: to Mr. and Mrs. J. Baxter Gardner, of Tulsa, a daughter. Mr. Gardner formerly was with the Skelly Oil Co., and is now with the Spartan Aircraft Corp.

* * *

W. L. Kistler, head of the Kistler Petroleum Co., Tulsa, accompanied by Mrs. Kistler, have gone to Ithaca, N. Y., where their son, W. L., jr., Cornell student, was operated on for appendicitis. They made the trip by commercial air lines.

* * *

W. D. Hume, of the Skelly Oil Co., hasn't seen his parents in Scotland since the World war. So, accompanied by Mrs. Hume and their three children, he sailed June 1. He will return late in July; his family in September.

* * *

C. R. Swarts has joined the production engineering staff of the Pure Oil Co., Tulsa. He formerly was with the U. S. Bureau of Mines, Bartlesville station, and was stationed in the Seminole field for a considerable time. He resigned from the bureau some months ago to engage in consulting work.

* * *

F. G. Jackson, district superintendent of the Ceptura field in Rumania for the Soc. Romana Americana (Standard of New Jersey) has completed a seven-months study of producing conditions and methods in the United States and will return to his post of duty, sailing June 13. He has spent several weeks in the Seminole district. Mr. Jackson, like other superintendents in foreign fields, finds it necessary to have a first-hand look at American methods from time to time, so rapid are the changes.

* * *

Colin C. Rae has been appointed oil and gas supervisor for the state of Michigan, effective June 15. He resigns from the geological staff of the Skelly Oil Co. to accept the place. Mr. Rae was one-time a superintendent for the General Petroleum Corp., was a consulting geologist in Denver for several years and came to Oklahoma with the U. S. Geological Survey, being deputy supervisor of operations on Indian lands in the Okmulgee district.

* * *

The ambition in Tulsa seems to be to get all banking under one roof. Following the consolidation of the Central National Bank with the Exchange National, the First National, second largest bank, brought under its tent the Tulsa National Bank and Trust Co.

Total resources of the combined First-Tulsa are about $45,000,000. Waite Phillips is chairman of the board of the First National, R. Otis McClintock, president, both oil men. F. L. Dunn was president of the Tulsa National, with oil men M. M. Doan, N. B. Feagin, J. M. Gilette, H. C. Tyrell, vice-presidents.

* * *

Ten Years Ago

(From National Petroleum News, June 4, 1919)

Federal Trade Commission holds conference on practice of leasing and giving away of gasoline pumps. (This covered, 10 years later, by A. P. I. code of ethics.)

Sinclair interests change name of merged companies from Sholan Oil Co. to Sinclair Consolidated Oil Corp.

Producers & Refiners Corp. acquires control of Pan-American Refining Co., West Tulsa.

J. Robey Penn leaves Midwest Refining Co. to become assistant to president Edgar L. Marston, Texas Pacific Coal & Oil Co.

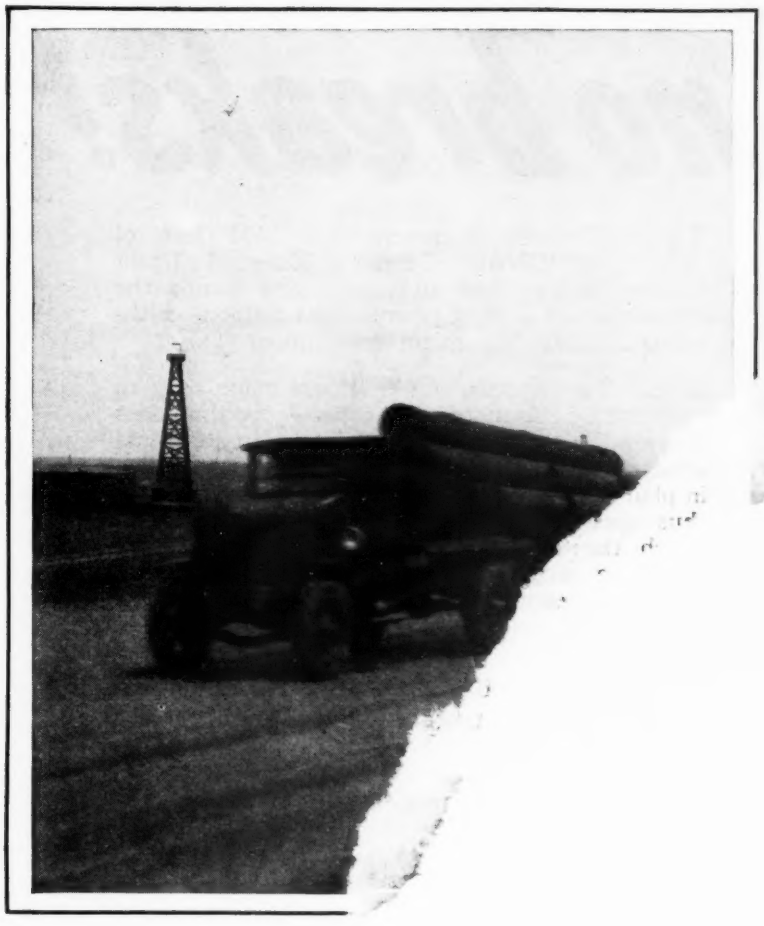
Texas division of Mid-Continent Oil & Gas Association formed.

E. E. Grant appointed secretary of Independent Oil Men's Association, President G. I. Sweney announces.

Union Oil Co. of California building refinery at San Pedro, Calif.

25 Years

. . . or an afternoon



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WHAT does it mean—that 1400 feet of "NATIONAL" Seamless External Upset Tubing lassoes a tree and convolutes around the landscape in a most promiscuous fashion—without wall failure in a single foot of pipe?

Simply this—and the significance is made easy to visualize by this monstrous caper—pipe that does this kind of a trick and ends up with its joints intact and its walls sound, has proven its quality in plain view for all to see. The quality it has thus openly exhibited is the same quality upon which the well's success depends when the pipe goes with underground conditions equally testing its durability, even if not so

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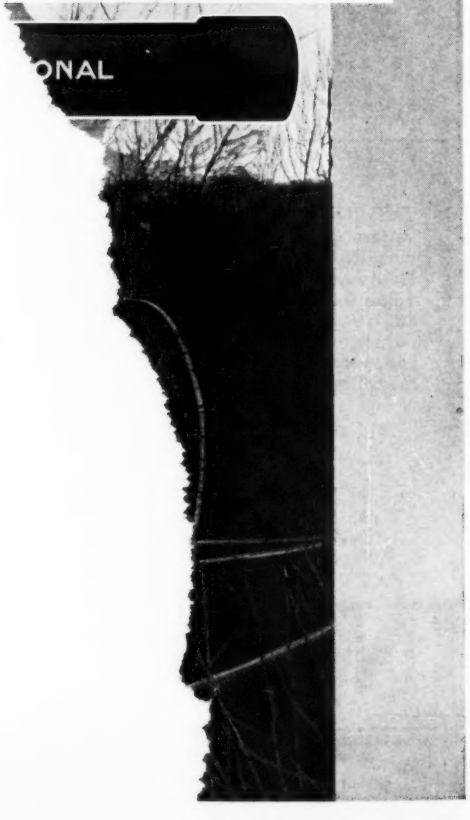

Oklahoma City Wells Nearing Pay With Another Gas Well Near Discovery

By Lawrence E. Smith
N. P. N. STAFF WRITER

TULSA, June 1

NOTHING of a nature to disturb the generally-assumed-to-be-rosy Mid-Continent crude oil situation occurred during the week. Oklahoma City still failed at the end of the week to make a contribution to the known information on that 6500-foot deep field, which still has one well.

The Asher field has climbed to around 9000 barrels daily, with four producing wells and other completions not far from the pay, but it has its dismal spots. Sedgwick county, Kans., yielded one good well in a new area, offsetting a producer a month old.

From offhand reports available in Tulsa, it appears that the withdrawal of crude oil from storage in Oklahoma and Kansas continues at about a 40,000-barrel per day rate. The air is full of rumors of another price advance, with the Prairie Oil & Gas Co. cast again for the role of leader.

It is only rumor, for that company, as usual, has nothing to say on the subject.

The Oklahoma City bid for petroleum production honors is getting feverish. A number of wells are at depths where a week or 10 days will yield some information as to the caliber of this deep pool, which has as yet only one producing well. The interesting event of the past week was the striking of a large flow of gas, estimated at 25 to 30 million feet daily, in a well a bare quarter of a mile northwest of the discovery.

Indian Territory Illuminating Oil Co. and Foster Petroleum Corp.'s No. 2 Alice Bodine, SW NE SE of 24-11N-3W found top of a lime assumed to be the Siliceous, at 6110 feet and at eight feet in the gas blew mud out of the hole. It was shut in. The operators plan to load it with mud and deepen.

In the discovery well, which is in the C SE SE of 24-11-3W, 7-inch pipe was set at 6355 feet and cemented. Gas broke through while they were drilling out the plug. It was figured at the time the well came in that the top of the oil pay was about 6397 feet. Thus, there appears to be a difference of some 200 feet between the discovery and the No. 2 Bodine which now has the gas, not accounted for by correlations between the two wells on marker beds higher in the holes.

It would seem that no oil need be expected for some distance, but in this case the operators have set the 7-inch pipe at 6099 feet. They believe that in the discovery well the pipe was set too low, probably shutting off some oil. There is a confusion in this area not only as to subsurface but as to the identity of the oil pay. A few more wells should clear up the uncertainty.

In the same area a closely watched well is the Sinclair Oil & Gas Co.'s No. 1 Stamper, NE SW NW of 30-11-2W, upward of a half mile northeast of the discovery. This well had about 25 million feet of gas at 6070-6120 feet. It has standardized and is ready to drill in, its total depth before cementing being 6180 feet.

MID-KANSAS OIL & GAS CO. has two wells that will be completions before long. Its No. 1 Fortson, C SW NE of 24-11-3W, a half mile north and a little west of the discovery, is standardizing at 6308 feet after cementing pipe at 6276. Its No. 2 Fortson, C NW NE of the same section, a quarter mile north of its No. 1, cemented pipe at 6200 feet.

Coline Oil Co. No. 1 Olds, C SE NW of 24-11-3W, the next 40-acre location west of Mid-Kansas' No. 1 Fortson, cored sand with a showing of oil and gas at 6192-6202 feet. It was coring ahead as the week closed.

These are the currently important wells in the area and will go far to tell whether this is a real field or another small Siliceous lime pool. The discovery well goes merrily ahead producing around 2700 barrels of oil and 400 to 450 barrels of water daily.

In Sedgwick county, Kans., Gypsy Oil Co. brought in its No. 1 Hamont, SW NW of 14-26-2E, near the town of Greenwich which is some 10 miles northeast of the limits of Wichita. The Gypsy well was swabbing about 1775 barrels daily. It had Wilcox sand at 3163-66 feet. It is an east offset to the Shell Petroleum Corp.'s No. 1 Lygrisse, which averaged 2121 barrels daily by swabbing over the past week.

The Sedgwick county territory is doing its noble best to alleviate the scarcity of Mid-Continent light oil. Its 68 wells averaged for the past week 33,088 barrels daily and since discovery last summer of the pool near Valley Center the county has yielded 2,704,851 barrels—to May 29.

Western Kansas, whose numerous wildcats are expected to uncover several pools this year, had no event of importance in the week under review. The wildcat of the Central Commercial Oil Co. in Trego county, previously reported, made its best showing during the week when it swabbed 286 barrels in 24 hours. It is in the NE SW NE of 20-13S-21W.

The Asher pool, near the south line of Pottawatomie county, is due for a number of completions soon. Discovered by the Simms Oil Co. in April, it now has four producing wells. The original well, No. 1 Laster, in the SE NE NE of 19-6-4E, produced 2860 barrels on May 31 and the previously reported Prairie Oil & Gas Co.'s No. 1 Laster, a south offset, made 2040 barrels.

Prairie drilled in its No. 2 Laster, SE NE of 19-6-4, two locations south of the discovery, producing 3300 barrels in the 24 hours ended the morning of the 31st. It had top of the Viola limestone, the producing horizon, at 3646 feet and drilled to 3674.

The east offset to Prairie's No. 1 Laster and the diagonal southeast offset to the discovery is T. B. Slick's No. 1 Bledsoe, in the NW SW NW of 20-6-4. It topped the Viola at 3630 feet, had first oil at 3676, drilled to 3686 and made 1080 barrels on May 30. The next day it produced 800 barrels.

THE situation to the north of this group of wells is not a pleasant one. Simms' No. 1 Hatley, in the SW corner of 17-6-4, had the top of the Viola at 3817 feet, upward of 200 feet lower than it did in the discovery. It is but two locations north of the one that opened the pool. To the northwest of the discovery, on Asher townsite, Reynolds Drilling Co. is also running away low in its well which would cipher out to be about the SE SW SE of Sec. 18, a scant quarter mile from the pool opener. It had top of the Sylvan shale at 3825 feet and no Viola yet.

That about disposes of the major movements of the week. There is nothing on the horizon, peer you ever so intently, that promises to prevent Oklahoma from complying with the A.P.I. formula—to hold to the daily average of 1928's production.

New Wells in Santa Fe Springs Boost Output 20,500 Barrels

LOS ANGELES, May 31

CALIFORNIA estimated daily average crude oil production was up 10,500 barrels for week ending May 31 to give a state total of 781,500 barrels.

Santa Fe Springs with an estimated production of 199,500 barrels topped the Long Beach field, which had 170,000 barrels.

Three wells completed and four recompleted at Santa Fe Springs added 20,500 barrels to last week's figures.

Wilshire Oil Co. completed its Eagle 1 for an estimated production of 8500 barrels from a depth of 6400 feet. General Petroleum Corp. placed its G. P. 228 on the compressor and it is now producing 1100 barrels from a depth of 7673 feet in the lower Clarke zone. This well is the only lower Clarke producer and does not indicate a great future for the deepest known sand. Universal Oil Co.'s Blanchard No. 7 was recompleted in the O'Connell zone for 5800 barrels.

Completion of the Union-Bell 40 for an initial production of 896 barrels and a later production of 1400 barrels indicated that the Nordstrum zone, in which this well was completed, is holding up.

The Nordstrum zone has a total production of 26,500 barrels from 29 wells, exceeding in output per well the 37,714 barrels produced from 59 wells in the Buckbee zone.

Associated Oil Co. is coring brown shale and streaked oil sands at a depth of 8105 feet in its Clarke No. 2 on the west edge of the Santa Fe Springs field. Its Dallugge No. 7 is standing cemented at 7600 feet. Several other wells are preparing for water shut-off tests of the deep sands within the near future.

Three new completions in the Signal Hill area failed to add materially to the total production. Several wells died natural deaths, leaving 872 wells which produced 170,480 barrels, as compared with 181,480 barrels produced from 888 wells last week.

Discovery of an oil field on the outskirts of Santa Barbara has changed that normally quiet town into a typical oil town. More than forty applications for permits to drill in that area have been placed before the Santa Barbara city council. Most of the proposed sites are within a stones throw of the Olympic Oil and Refining Co.'s discovery well Lomas No. 1.

Olympic has installed two 500-barrel storage tanks, but has decided to delay opening up its well until such time as a suitable market has been established for the crude oil. The company has a refinery at Long Beach, where it makes gasoline and fuel distillates, which are sold through Independent service stations. Oil from this well may be run down to refinery by tankers.

Some of the larger companies are delaying actual drilling operations awaiting the outcome of several projects now under way by Independent operators. Two recent spud-ins were made in this area during the past week—Major Oil Co. in its No. 1 and George L. Ring in his No. 1.

To take care of the present and future production of natural gasoline in this field D. D. Dunlap and G. M. Knapp of Long Beach have applied for a permit to erect an absorption plant. One unit will be built now and others added as wells now drilling obtain commercial production. These men are also actively engaged in drilling operations here.

A new deep sand find is in the offing, if reports from Richfield Oil Co.'s Miley-Hobson No. 2 in the Rincon field are indicative. Circulation, which had been stopped for several days, has been restored and the outlook is most promising, according to company engineers.

The deep sand test was cemented at 7496 feet after coring a very promising oil sand. Gas pressure in this well has prevented completion before this time and is now threatening the success of the coming production test. At latest reports, the casing pressure was in excess of 1200 pounds.

Of added interest in this area is the proposed wharf to be built by General Petroleum Corp. to enable it to drill on the tide land leases it controls. Future tide-land drilling will be prevented by a new California state law that was passed during the past session of the legislature.

Lawndale had an addition to its total production by the completion of the Smith interests Peck No. 8, which came in for 800 barrels of 32 gravity oil from 5873 feet. This gives these promotors in excess of 2000 barrels from this field. Pacific Western Oil Co. has approximately 800 barrels from its two Howland wells.

Several operators are sitting tight awaiting the outcome of tests to be made within the coming week. Shell Oil Co. may set casing in its Clarkdall well, northwest of the discovery well, but as it is an offset to the Smith Brothers Peck No. 4, which is now producing only 20 barrels of oil per day from an oil sand of 12 feet, there is some doubt as to whether Shell will proceed with operations.

As tests are made in this field of many idle rigs, it appears that the Smith interests may have all the productive formation. At least no other operator has secured commercial production, except Pacific Western Oil Co. in its Howland lease, which was in turn leased from the Smith interests.

Two wells are standing cemented at Kettleman Hills, below the 6000 foot level and a number of others are rapidly approaching this stage of development.

Standard Oil Co.'s No. 81 in Section 11-22-17 is down to 6230 feet with 8⅝-inch casing set at 6020 feet. Milham Exploration Co.'s Elliott No. 2 in Section 2-22-17 is bottomed at 6400 feet and has 9-inch seamless casing set at 6200 feet. Milham and Shell Oil Co. are running casing and Marland Oil Co. is down to 6078 feet in its No. 12-8.

Marland Oil Co. of California boosted its Seal Beach production to 24,000 barrels with the completion of Bixby No. 5 for 2000 barrels from the Wasem zone at a depth of 5700 feet.

Barnsdall-Rio Grande joint interests have their Elwood Community No. 1 drilling at 5680 feet in sandy shale. This well, after passing through a likely looking oil sand, went in search of deeper sands because of failure to obtain a successful water shut-off.

Phillips Building Three New Gasoline Plants

BARTLESVILLE, June 1.—Phillips Petroleum Co. is constructing three additional gasoline plants, according to an announcement made public at the company's headquarters here.

One plant is being constructed in Gray county, Texas, and will be known as the Gray plant. It will operate on well pressure, handle 50,000,000 cubic feet of gas and manufacture approximately 20,000 gallons of natural gasoline a day.

Another plant is being erected in the vicinity of the Bowers pool, Gray county, and will be known as the Bowers plant. It will handle 10,000,000 cubic feet of gas and produce approximately 15,000 gallons of gasoline daily.

The third plant is a 25,000,000 cubic foot well pressure unit near Lefors, and will make approximately 15,000 cubic feet of gas daily.

Du Pont designs four primers for the petroleum industry

IN no other industry are the problems of corrosion so serious. No one primer, however good for a particular use, can be applied to all the diverse demands of the industry. But, with the assistance of maintenance engineers, superintendents and master painters of the petroleum industry, du Pont chemical engineers have worked out the following four primers designed to meet requirements of oil field exposure:

Du Pont No. 45 Kromate Metal Primer

Particularly adapted to surfaces subject to continuous or intermittent contact with water.

The pigment portion is made up of the best rust inhibitive combination known, 75% of which is basic lead chromate. Dries to a hard, dull film that hugs the surface, giving the best adhesion to finishing coats. Sets up free from dust in three to five hours and dries hard in eighteen to twenty-four hours. Whereas many primers are impaired by moisture condensation and dew, du Pont No. 45 Kromate Metal Primer sets up so rapidly that it is not affected. Spreading capacity between 500 and 700 square feet to the gallon brushed or sprayed.

Du Pont No. 44 Aluminum Paint Primer

An undercoating for structural steel and tankage.

A longer oil product with a pigment made up of basic lead chromate and sublimed blue lead with 10% asbestine to insure proper keeping in the package. While it is designed specifically as a primer for finishing coats of aluminum on structural steel and tankage, it is suitable for any type of oil finish coats.

Neutral plum color which will not show laps or breaks in the finishing coat, as frequently happens with red oxides, red lead, and basic chromate pigment when used alone. Sets up in from four to six hours and dries hard in eighteen to twenty-four hours.

Not affected by condensation or dew. Keeps well; settles very little. Can be either brushed or sprayed. Will cover from 500 to 700 square feet to the gallon. Dries to a tough, hard, elastic film, with a surface that gives the greatest adhesion to finishing coats. Maximum durability and rust inhibition. Sufficiently elastic to meet the usual extremes of contraction and expansion found in the oil fields.

Du Pont No. 7 Primer

A good general purpose metal primer.

No. 7 Primer has, for a portion of its pigment content, a rust inhibitive pigment and contains a vehicle long in oil. The film, when dry, is highly impervious to the passage of moisture and gases, and is sufficiently flexible to withstand the extremes of expansion and contraction. Dark reddish brown in color. Sets up dust free in five to six hours and dries hard in twenty-four to thirty-six hours. Approximate spreading capacity 500 square feet per gallon one coat. Can be used without thinning.

Brush and spray application. It has the advantage of being low in price and at the same time provides strong rust inhibition and anti-corrosive properties.

Du Pont No. 41 Black Metal Primer

Especially recommended for priming tank cars which are to be finished in high-gloss black.

A treated oil vehicle in combination with magnetic black oxide pigment reinforced with basic chromate and sublimed blue lead. This pigment combination renders the film highly resistant to electrolytic action, insuring at the same time other anti-corrosive and rust inhibitive characteristics so necessary in oil field exposures. Sets up in from four to six hours and dries hard in twenty-four hours.

Call in the du Pont engineers to study your particular problems.

These men have spent years in studying protective painting for the petroleum industry. Use their knowledge for the solution of your problems. At the same time send for technical bulletins which describe the du Pont products designed specifically for the industry.

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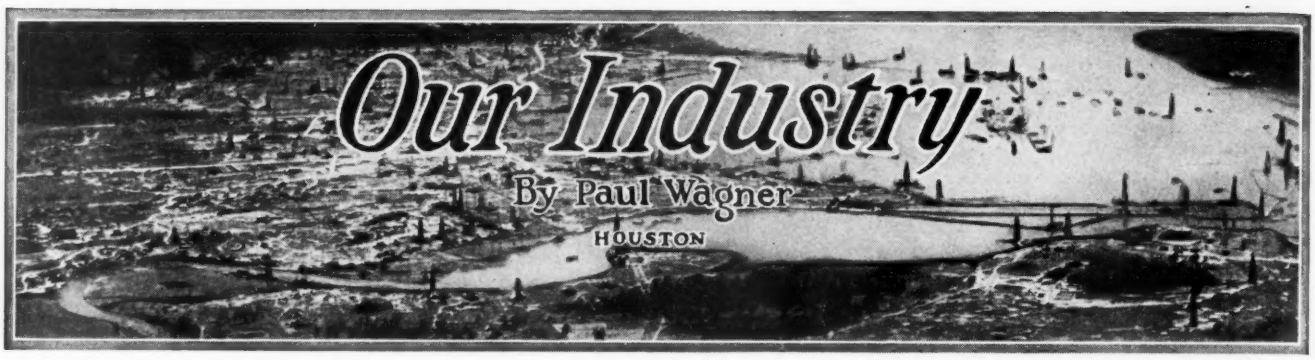


It was 30 years ago that C. F. Whittier, Los Angeles oil operator, landed in California with 35 cents in his pockets. Today he is rated one of the wealthy men of the state and is known throughout the petroleum industry, both at home and abroad.

Interests with which Mr. Whittier has been identified as president are the United Oil Co., the Midway Central Oil Co., and the Midnight Oil Co. of California; also the Middle West Oil Co., operating in Oklahoma. He has been identified also, as a director, with the Bulldog Oil Co. and the Colon Oil Co. of Oklahoma and the Titicaca Oil Co., operating in southern Peru.

Mr. Whittier spent his early life on the farm of his father at Caribou, Maine, where he was born April 30, 1869. When he left home at the age of 21 he was equipped mainly with physical strength and a determination to succeed. After a short time in the merchandising business at Caribou he encountered misfortune through misplaced faith in others. Then he engaged in the logging and lumber business in the Maine woods.

Turning westward he arrived in Los Angeles in 1898, a short time prior to the Klondike rush. He joined the stampede to Alaska, but after a year of indifferent success returned to California. It was then his fortune turned. He began in the oil fields as a driller but the business instinct was in him. It was not long until he was buying lands and options for oil exploration. Initial successes inspired confidence of others, who readily joined with him in organizing for large scale operations. Since then Mr. Whittier has forged forward to an enviable place in oil industry recognition.

He is a member of the Benevolent and Protective Order of Elks, the Gamut Club and the Los Angeles Country Club of Los Angeles and the Bakersfield Club of Bakersfield.

* * *

W. E. Harrison has been appointed superintendent of the San Joaquin Valley division of the General Petroleum Corp., succeeding Fred Abels, resigned. Mr. Harrison will make headquarters at the General's Kern Front field offices, near Bakersfield. Announcement of the change was made by D. R. Thompson, assistant manager of production, at Los Angeles.

* * *

C. L. Coppage, who recently retired as vice president and director of sales of The Texas Co. of California, Los Angeles, will leave shortly on an extended tour of Europe.

* * *

Lieutenant Governor H. L. Carnahan, of California now heads the Sunset Pacific Oil Co., into which the old Julian Petroleum Corp., and the California Eastern Oil Co. were reorganized. The Julian company was at one time one of the outstanding promotions launched in California.

* * *

Joseph H. McEvoy, Jr., manager of the McEvoy Screen Pipe Co., is at home in Houston after a honeymoon trip to northern and eastern points. He was recently married to Miss Olga M. Martinoff at St. John, N. B., Canada.

* * *

William I. McLaughlin of San Francisco has assigned to the Standard Oil Co. of California his recently granted patent on a rotary core barrel which definitely indicates the direction of plunge of formation from which a core is taken. The result mentioned is accomplished by use of the patent retainer fitted into the core barrel.

C. F. Whittier

* * *

Harris Hammond, president of Mexican Seaboard Oil Co. of Maine, describes the Buttonwillow properties owned by its subsidiary Milham Corp., as the largest natural gas field in California. It is from the Buttonwillow property, south of Kettleman Hills, on the western edge of the San Joaquin Valley, that the Pacific Gas & Electric Co. is now building a $12,000,000 line to supply San Francisco and the adjacent bay cities with natural gas. The line, which is expected to be completed by October, will operate on gas contracted from the Mexican Seaboard subsidiary.

* * *

Speaking of the oil conservation movement and Attorney General Mitchell's recent refusal to approve the American Petroleum Institute stabilization plan, A. L. Weil, chief counsel of General Petroleum Corp., observed in a public speech that "we've got off the main path where it isn't very well paved; and we've got in a chug hole where we may have to lose a tire." "But," he continued, "take this home—the attorney general's statement has not checked conservation." Mr. Weil frankly stated the plan should never have been submitted to the attorney general, who under legal propriety could not rule on it, nor could he attempt to bind a successor in office by giving an opinion as to its merits or otherwise.

* * *

Kenneth R. Kingsbury, president of the Standard Oil Co. of California, has become chairman of the board of directors of the American Bitumuis Co., a Delaware corporation, which the Standard now controls. Malcolm Beranger continues as president. The Standard purchased 43,750 shares of 75,000 authorized of no par common stock at $10 a share.

American Bitumuis Co., which was formerly known as the Bitumuis Corp., was organized to manufacture and sell emulsified road oils and asphalt. It owns the patented process for laying asphalt cold instead of heated. Standard of California has re-elected all its directors, including K. R. Kingsbury,

R. K. Hanna, H. M. Storey, H. T. Harper, W. H. Berg, W. P. Warner, H. B. Collier, R. W. Hanna, Oscar Sutro and M. E. Lombardi.

* * *

Dan Hogan, long identified with the Edward L. Doheny interests in California, told a group of Kettleman Hills operators recently that inasmuch as two-thirds of present Naval Reserve oil production is going to the British government and the Japanese Navy "we have got to be sure the future of our own navy is supplied."

He announced to his hearers that he was speaking as a representative of the National Naval Affairs Committee of the American Legion. Mr. Hogan took the position that the government land on the Kettleman Hills structure is our greatest federal reserve. It takes six to eight months to drill wells there; consequently, he could see no large number of holes being rushed down after the manner of some of the industry's pepper-box type development, notably at Santa Fe Springs now and Burkburnett or Spindletop of the past.

"The government might commandeer other oil," said Mr. Hogan, "but the only place it could get its own supplies quickly would be at Kettleman Hills." This being a field where only experienced interests can operate, because of development grief and great expenditures of money, he voiced the thought there should be no suspension of drilling.

He would have operations continue down to water shutoff levels, or oil discovery if necessary to validate titles, before shutting down. Then in the case of a national emergency the necessary oil could be obtained overnight, so to speak.

J. A. Brown, vice president of the General Petroleum Corp., Los Angeles, reached the Pacific Coast through the parent Standard Oil Co. of New York. He had followed "Art" Corwin, production vice president into the New York Standard when Mr. Corwin went to that organization from the Standard Oil Co. of New Jersey.

J. A. Brown

Prior to that, Mr. Brown was in general charge of foreign development for the New Jersey Standard. Previously, he had been resident manager at Tampico of the Compania de Petroleo de "Transcontinental," S. A., subsidiary in Mexico of the New Jersey Standard.

* * *

Don Hughes, formerly in charge of foraminiferal work in the geological department of the Marland Oil Co. of California, is now with The Texas Co., at Los Angeles. Ralph Reed, also formerly of the Marland company's California organization, is in The Texas Co.'s geological department.

* * *

M. K. Barret is now West Texas district geologist of the Skelly Oil Co., with headquarters at San Angelo. He returned there recently from Roswell, New Mexico, where he had been stationed. F. E. Neel of the San Angelo geological organization has been transferred to scouting work. C. T. Heenan, formerly at Midland, is now at Roswell, replacing J. Parker Garvie, who left the company.

* * *

Production activities of the Barnsdall Oil Co. of California, of which R. A. Broomfield is president, are carried on through F. A. Fortine as vice president and general superintendent. Operating lieutenants of Mr. Fortine include D. C. Burke as superintendent and Frank W. Carson as production foreman in the Elwood division; William Whaley, superintendent in the Los Angeles Basin division; Archie Orchard, superintendent in the San Joaquin Valley division; David Caldwell, chief petroleum engineer; W. A. Torrey and K. W. Haley, assistant petroleum engineers; and Orlando Weaver, superintendent of the gasoline department.

* * *

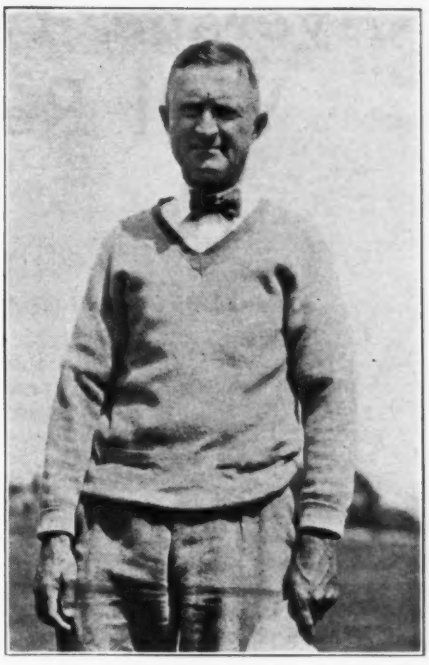
G. Stubbe is general manager of the American Askania Corp., formed under Texas laws with offices at Houston, to market geophysical instruments and equipment manufactured by Askania Werke, A. G. of Bambergwerk, Berlin-Friedenau.

* * *

Paul T. Putnam, formerly advertising manager, is now sales manager of the oil field division of the W-K-M Co., equipment manufacturers of Houston.

* * *

Francis A. Dunigan is in charge of a newly established Fort Worth office of the Dunigan Tool & Supply Co., which operates a chain of supply stores and machine shops in North and West Texas oil fields. Headquarters offices are maintained at Breckenridge.



M. D. Woolery

Mark D. Woolery, Pacific Coast manager of the Ohio Oil Co., took charge at Los Angeles when his company entered into California operations. He was formerly located in the Rocky Mountain territory, making his home at Casper, Wyoming. Though relatively young in years, not yet out of his forties, Mr. Woolery is old in experience. He is widely known throughout the industry.

* * *

G. H. Doane is now micro-palentologist in the Los Angeles organization of the Pacific Western Oil Co. He recently resigned from the Milham Corp., subsidiary of Mexican Seaboard Oil Co. of Maine, to accept the position.

* * *

New directors of the California Oil & Gas Association, formerly known as the Chambers of Mines and Oil, include Walter B. Pyron, vice president in charge at Los Angeles of the Western Gulf Oil Co.; W. C. McDuffie, president of Pacific Western Oil Co.; and W. E. Dunlap, director in charge of production of Richfield Oil Co.

New directors of the association named last January included S. A. Guiberson, Jr., president of the Guiberson Corp., and E. M. Smith, president of Emsco Derrick & Equipment Co., and allied enterprises.

* * *

Harold Vance, formerly superintendent at McCamey, Texas, for the Marland Production Co., now occupies a similar position at Jal, New Mexico, looking after Lea county development. He was succeeded at McCamey by H. B. Hurley, formerly superintendent in the Howard-Glasscock county territory.

Average Yates Field Recovery Per Well Reaches 125,000 Barrels

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, June 1

ANALYSIS of Yates field production, in West Texas, shows this phenomenal Pecos county area had yielded 125,000 barrels of crude oil per well to May 1, 1929, despite the restrained development practiced since its first exploitation in 1927.

The 300 wells producing in the Yates field, May 1, were then prorated at 87,500 barrels daily as compared with rated potentials at that time aggregating 4,856,967 barrels. May 10, the prorating maximum was raised to 100,000 barrels and May 15 the figures on potentials reached 4,948,784 barrels for 305 wells.

Based on May 1 figures, which are the latest available for statistical purposes, the field has yielded approximately 12,500 barrels per acre for the Yates developed ground. The computation is made on a basis of 10 acres to the well instead of spreading the recovery over the approximately 15,000 acres inside the outer boundary lines of the field structure.

Nearly 44 per cent of the total recovery to May 1 had come from 107 wells drilled by Mid-Kansas Oil & Gas Co., subsidiary of Ohio Oil Co., for the account of itself and its half interest partner, the Transcontinental Oil Co.

On the basis mentioned, the Mid-Kansas had developed less than 1100 acres of the more than 5000 acres embraced in its present productive leaseholds.

The California Co., subsidiary of the Standard Oil Co. of California, with 45 wells, had produced 5,377,972 barrels, or nearly 15 per cent of the field's total yield. This quantity of production came from 450 acres, allowing 10 acres to the well, as compared with 4280 acres embraced in that company's total productive leaseholds.

Gulf Production Co., which appears third largest in the recovery list, had produced 4,473,722 barrels from 38 wells, or 380 acres, allowing 10 acres to the well. Its productive leaseholds total 5912 acres, but its Runnels School Land property embraces 3992

Accumulated Gross Production by Leases in Yates Field, Pecos and Crockett Counties, Texas

Company	Lease	Sec.	Blk.	Wells	Acres	Date Prod. Began	April Prod. (Barrels)	Total to May 1, 1929	Company Total (Bbls.)
			5 - 1 - 29						
California Co.	Yates Lse 1	34	194	17	640	Oct. 1927	207,930	3,503,126	
do	Smith-Lse 2	26	194	2	640	July, 1928	5,010	43,497	
do	Smith-Lse 3	35	194	12	640	Oct. 1927	56,220	1,364,106	
do	Smith-Lse 1	23	194	7	640	Jan. 1928	43,680	213,644	
do	Smith-Lse 1	37	194	3	640	Jan. 1928	12,630	168,521	
do	Smith-Lse 1	21	194	3	640	Jan. 1928	26,550	77,992	
do	Tippett	2	1	1	640	Oct. 1928	870	7,086	5,377,972
Cosby et al	Smith	24	194	1	20	.....	7,830	58,544	58,544
Dixie Oil Co.	Thompson	72	1	1	640	5-16-28	610	5,781	5,781
Grayburg Oil Co.	Halff-Thompson	70	1	3	....	March 1928	4,350	66,060	66,060
Gulf Prod. Co.	Yates	Runnels		20	3992	11-15-27	269,730	2,939,376	
do	Smith A&B	28&22	194	16	1280	9-19-27 & 12-19-28	58,110	1,296,600	
do	Thompson	71	1	2	640	9-10-27	6,660	237,746	4,473,722
Humble Oil & Refining Co.	Smith-A	36	194	10	640	.....	43,200	904,837	
do	Smith-B	101	194	5	416	.....	22,770	509,760	1,414,597
Kirby Pet. Co.	J. H. Tippett	40	194	2	160	4-1-28	1,950	21,552	21,552
Kirby & Edson	J. H. Tippett	108	194	1	50	12-1-1927	7,590	105,683	105,683
Marland Prod. Co.	Yates-A	60	1	6	320	.....	34,140	624,656	
McMan & Marland	Yates	34½	194	17	697	.....	123,330	2,298,054	2,298,054
McMan O & G Co.	Richardson	108	194	2	80	Feb. 1928	1,800	115,571	
do	Smith-A	104	194	..	..	.....			
do	Smith-B	104	194	4	415.5	.....	61,770	775,730	
do	Smith-C	25	194	5	640	.....	18,120	124,901	
do	J. H. Tippett	107	194	2	200	Feb. 1928	8,400	40,043	1,056,245
Mazda O Co. & Savoy	Smith	24	194	3	80	Nov. 1927	19,290	209,236	209,236
Mid-Kansas & Transc. Co's.	Yates-A	34½	194	24	1767	Dec. 1926	361,830	5,329,815	
do	Yates-B	61	1	27	640	2-24-27	165,570	3,126,152	
do	Yates-C	60	1	11	315	5-10-27	168,810	2,074,543	
do	Yates-D	62	1	6	640	10-26-27	190,020	1,869,934	
do	Yates-E	59	1	1	320	11-28-27	3,000	66,074	
do	Yates-F	63	1	4	40	2-11-28	9,710	250,789	
do	Yates-G	34½	194	4	445	4-11-28	29,850	342,051	
do	Yates-H	32	194	8	....	8-31-28	157,740	1,220,089	
do	Smith	31	194	4	640	1-16-28	30,420	223,008	
do	Smith Taylor	33	194	18	..	5-24-27	99,780	2,009,808	16,518,317
Grayburg (was Hawse)	Pecos River Bed	..	..	7	..	.....	22,500	345,758	345,758
Phillips Pet. Co.	Smith (Monroe)	39	194	1	640	Mar. 1928	1,740	34,959	
do	Smith (Matador)	24	194	2	40	July 1928	19,800	165,564	200,523
Shell Pet. Co.	Smith-A	27	194	9	640	.....	27,930	500,389	
do	Smith-B	24	194	1	40	.....	21,630	156,923	
do	Smith-D	24	194	3	320	.....	14,730	103,210	
do	Smith-E	2	194	1	640	Dec. 1928	700	3,449	
do	Tippett	102	194	11	415	.....	62,760	1,438,454	2,202,425
Simms Oil Co.	Smith	103	194	7	414	9-26-27	150,330	2,398,254	
(Red Bank)	Smith	24	194	5	140	.....	15,060	209,233	2,607,487
Skelly Oil Co.	Tippett	108	194	1	50	.....	2,850	42,245	42,245
TOTALS				300	22,804.5		2,629,940	37,646,879	37,646,879

Total of 37,646,879 includes 11,940 barrels of oil salvaged by the Marland Prod. Company, which is not listed above. McCarty Oil Company ran 372 barrels during March 1929.

Mid-Kansas & Transcontinental's No. 1-A discovery well made about 8,000 barrels during December, 1926 and January 1927, but first production started February 11, 1927.

acres, all of which has not been proved for oil.

Recoveries of various other companies operating in the Yates field bear similar but not identical relation to the total yield, as shown in an accompanying tabulation.

The figures are interesting chiefly for their illustration of recoveries in less than two years from a field which, under prorating practice, has never been allowed to produce in excess of 5 per cent of its rated potential. Even after a proposed increase of allowable production, probably to 130,000 barrels daily about July 1, the aforementioned percentage situation will still prevail.

Reports from the field are to the effect that flowing pressures show no reduction when wells are tested. Water encroachments have been mainly confined to edge properties down the dips of the structure on the east, west and northwest sides. With few exceptions, and then not attributed to bottom water, there have been no encroachments up-dip toward the top of the structure.

Engineers who have studied the Yates situation carefully are generally in accord on the view that exploitable production of more than 1,000,000 barrels daily exists there under present conditions. They are generally agreed, also, that half that quantity of oil could be taken out currently without increasing water encroachment in dangerous proportions, provided withdrawals were evenly distributed over the field and not so handled as to induce "coning" of the underlying water table. The accompanying small table gives a record of Yates field wells making water. Most of the number listed have been showing similar quantities for the last eight to 10 months, their present records representing only slight, if any, increases.

An accompanying accumulative gross production table is self explanatory.

Wells in Yates Field, Texas, Showing Water

Company	Lease	Sec.	Blk.	Well	Water
California Co.	Smith Lease 1	21	194	1	5%
Dixie Oil Co.	Thompson	72	1	1	20%
Grayburg O. & R. Co.	Halff	70	1	1	29%
do	Halff	70	1	2	30%
do	River Bed	..	..	1	30%
do	do	..	..	3	100% Will Plug
do	do	..	..	4	35%
do	do	..	..	5	20%
do	do	..	..	8	29%
do	do	..	..	10	90%
do	do	..	..	12	10%
Gulf Prod. Co.	Smith A.	28	194	4	5%
do	Thompson	71	1	2	99%
do	do	71	1	3	37%
do	Runnels School Lds.	..	..	4	2%
do	do	..	..	5	2%
do	do	..	..	8	3%
do	do	..	..	18	5%
do	Smith A.	36	194	4	3%
do	Smith B.	101	TCRR	5	5%
do	do	101	do	3	3%
Kirby Pet. Co	Tippett	108	do	1	10%
Kirby-Edson	do	108	do	1	10%
McMan O. & G. Co.	Richardson	108	do	2	10%
do	Goodrich	108	do	1	6%
do	Smith C.	25	194	2	7%
Marland Prod. Co.	Yates A.	60	1	2	28%
do	Yates A.	60	1	7	30%
do	Yates A.	60	1	8	21%
Mid-Kansas & Transcontinental	Yates B.	61	1	3	59%
do	Yates B.	61	1	4	12%
do	Yates B.	61	1	13	15%
do	Yates B.	61	1	14	None
do	Yates B.	61	1	23	5%
do	Yates F.	63	1	23	37%
do	Yates B.	61	1	24	1%
do	Yates C.	60	1	5	9%
do	Yates G.	34½	..	2	30%
do	Yates G.	34½	..	2	2½%
Phillips Pet. Co.	Monroe	39	TCRR	1	15%
Shell Pet. Corp.	Smith E.	2	194	1	40%
Skelly Oil Co.	Tippett	108	TCRR	1	6%

Deepest Gulf Coast Well Is Producer

(By Telegraph)

HOUSTON, June 3.—The deepest oil test ever drilled in the Gulf Coastal salt dome producing region came in June 2 making 5000 barrels of 50 gravity crude daily at 7388 feet. It is the No. 6 Houssiere-Latrielle of the Yount-Lee Oil Co. in the old Evangeline field near Jennings, La. The well is on the east side of the field.

Production there in the past had been confined to relatively shallow old levels. Yount-Lee Oil Co. has pioneered deep drilling in the Gulf Coastal region discovering the flank oil found in the Spindletop, Tex. field in 1927.

Prorating Figures Adjusted in Two West Texas Fields

Staff Special

HOUSTON, June 1

ADJUSTMENTS in potential production figures for two West Texas areas became effective, June 1, following action taken by field committees. The Howard-Glasscock and Winkler county producing areas are affected. They are prorated on allowable production, respectively, of 37,500 and 150,000 barrels daily, the same as in recent semi-monthly periods.

Action of the field committee, which met with Chairman L. E. Barrows at Fort Worth, resulted in the lopping-off of 477,836 barrels, or 25 per cent, from the rated potential of the Winkler field. Announcement was then made that "effective for the coming period, June 1-15, the Winkler county field potentials will be cut 25 per cent, being the aggregate of the blanket cut of 15 per cent, applicable for this period only, and the regular semi-monthly cut of 10 per cent."

The Winkler field committee also decided to reduce the allowance made new wells. Hereafter, new and workover wells are to be credited with only 85 per cent of their tested potentials.

Another ruling of the field committee is that hereafter the acreage allowance only is to be given units incapable of producing their quota under prorating practice. Previously, the prorating yardstick had been made up 50 per cent on acreage and 50 per cent on potential production of wells. Many wells, because of pressure declines and water encroachment, had been recently unable to produce allotted quantities of crude oil.

The number of Winkler producing wells, May 31, totaled 585 as compared with 579, May 15. Rated potential, which is conceded is not exploitable and, therefore, serves only for yardstick purposes in prorating purposes, was 1,306,561 barrels daily, May 31, as compared with 1,784,397 barrels, May 15.

Howard-Glasscock operators, meeting in Dallas, elected M. B. Sweeney of the Sun Oil Co., as chairman, succeeding Robert T. Piner, banker of Big Spring, who resigned because of press of other business.

It was decided by Howard-Glasscock operators to prorate all wells making 200 barrels or more daily, except those on twin locations, at 60 per cent of their potential for a 15 day test period. Previously, varying percentages had been used. Otherwise, the method applied had been similar. Shooting of wells in the 2200 and 2500 foot producing horizons also will be permitted hereafter.

Completions in Oklahoma and Kansas, Week Ended June 1, 1929

OKLAHOMA

Caddo County

Company	Well No.	Location	Depth	Init. Prod.
English Drlg.	1	SEc NE 3-5-9 W	1876-2424	7.5M
Carter County				
Shell	1	SE NW SW 18-4-1 W	T.D. 3844	Dry
Cotton County				
Stump	1	NWc NE 11-3-10 W	T.D. 2513	Dry
Creek County				
Markham	7	NEc SE NW 20-17-7 E	T.D. 3320	Dry
Curtis	1	SEc 3-17-8 E	T.D. 3533	Dry
Jackson-Wise	2	NWc SW SW 1-17-11 E	T.D. 1584	Dry
Wilcox	8	SW SE SW 35-16-8 E	T.D. 3200	Dry
Sherry	1	NWc NE NW NE 1-16-11 E	T.D. 2694	Dry
Edgewood	5	NW SE SW 17-14-10 E	T.D. 3797	Dry
Billingslea-Riverld.	1	NE SE NW 28-14-10 E	T.D. 3390	Dry
Bartlett et al.	3	NE NW NE 18-19-9 E	2103-2117	1¼M
Evans Bros.	1	NWc SE 31-19-9 E	2467-2497	2M
Gled	1	CNL NE SW 31-19-9 E	3096-3143	50
Whitten-Wilcox	5	SWc SE SW NE 11-17-10 E	2014-2046	5
Tibbens	41	SWc NW SW NE 30-15-9 E	1240-1290	2
Garfield County				
Knox	1	NEc NW 35-22-4 W	T.D. 2350	Dry
Grant County				
Marland et al.	2	SW SE SE 35-28-3 W	4165-4237	10M
Kay County				
Harris-Haun et al.	2	C NE NE 36-28-1 W	778-890	.35M
Kiowa County				
Conner-Son	2	SWc NW NW NW 25-7-16 W	T.D. 805	Dry
Lincoln County				
Wheeler-Mote et al.	1	NW NE SW 2-16-5 E	T.D. 4124	Dry
Texas-Pacific	2	NWc SE 5-16-5 E	T.D. 2457	Dry
I. T. I. O.	1	NEc SW SW 31-15-5 E	T.D. 4862	Dry
Logan County				
Shell	3	NW NE SE 30-19-4 W	6045-6065	1675
Muskogee County				
Bryan	2	SWc NW SW 3-15-15 E	1452-1462	12
Bryan	2	SW SE NE 8-15-15 E	1635-1669	20 OWD
Cushing	1	SEc SW SW 23-15-17 E	T.D. 2550	Dry OWD
Cooke-Day	1	SWc NW NW SE 9-15-18 E	T.D. 1140	Dry
Dewitt-Baldridge	1	NEc SE SW 11-14-16 E	T.D. 975	Dry
Loweree	3	CNL NW SE 5-13-16 E	T.D. 1818	Dry
Okfuskee County				
Champlin	12	SWc SE 15-11-11 E	3474-3488	125
Champlin	4	C NW NW 23-11-11 E	1607-1683	5
Umburn	8	SEc NE NE 11-10-11 E	1588-1597	510
Oklahoma County				
Cromwell	1	SW NE NE 15-12-3 W	T.D. 7182	Dry
Osage County				
Gray et al.	1	SE NE NE 9-24-9 E	T.D. 2298	Dry
Mid-Co	1	SEc NE 17-22-10 E	T.D. 2025	Dry
Okla. Natural	788	SWc NE NE NE 15-21-10 E	T.D. 1736	Dry
Red Bank	1	SE NE NW 11-20-10 E	T.D. 2315	Dry
Fitzstephens	1	NW SW NE 16-28-8 E	2352-2361	8
Prod. & Ref.-Peters	4	SWc SE 22-27-11 E	1638-1661	125
Pawnee County				
Miller	1	SWc SE 26-20-9 E	T.D. 2145	Dry
Pottawatomie County				
Sinclair	2	NE SE SW 7-8-5 E	4131-4133	10
Empire	1	SW SE NE 8-8-5 E	4065-4100	1190
Magnolia	2	NE NW SW 18-7-5 E	4030-4190	10
Sinclair	7	SW SE NW 18-7-5 E	4010-4125	35
Sinclair	8	NW SE NW 18-7-5 E	4028-4040	260
Atlantic-Indep.	1	SWc NE 16-7-4 E	3648-3850	690
Phillips	1	SEc NE 24-7-4 E	4175-4199	OWD 35
Magnolia	5	NW SW NE 26-7-4 E	4349-4355	10
Simms et al.	1	SE NE NE 19-6-4 E	3640-3699	3785
Pittsburg County				
Aylor	1	SEc NW 6-6-14 E	T.D. 700	Dry
Seminole County				
Independent	1	SE SW SW 31-10-6 E	T.D. 4390	Dry
I. T. I. O.	1	SE SW NW 24-7-5 E	T.D. 4479	Dry
Sinclair	1	NEc NW 24-5-7 E	T.D. 4501	Dry
Superior	3	NE NW NW 1-9-5 E	4314-4329	510
Gypsy	4	SW SE NE 1-8-5 E	4216-4225	130
Barnsdall	6	SW NE SW 11-8-5 E	4150-4162	500
Barnsdall	8	NE SW SW 11-8-5 E	4192-4198	115
Empire	7	SE NW SE 11-8-5 E	4176-4186	765
Sinclair	3	NE SW SE 11-8-5 E	4270-4281	570
Tidal	4	SEc 12-8-5 E	4203-4218	700
Tidal	5	NW SE SE 12-8-5 E	4195-4205	655
Skelly-Lenox	1	NW SW NW 20-8-5 E	4153-4177	335
Gypsy	7	NE SE SW 6-8-6 E	4160-4167	945
Gypsy	8	SW SE SE 6-8-6 E	4250-4263	800
Gypsy	9	NEc SE 6-8-6 E	4285-4305	300
Gypsy	5	NW NE NE 7-8-6 E	4289-4297	860
Gypsy	5	NW SE NW 7-8-6 E	4310-4316	360
Gypsy	4	SW NE SE 7-8-6 E	4405-4413	150
Indep. et al.	3	SW NE NW 7-8-6 E	4380-4384	735
Indep. et al.	4	SE NE NW 7-8-6 E	4473-4476	300
Shell-Papoose	5	SE NW SW 7-8-6 E	4250-4271	440
Sinclair	4	SW NE SW 7-8-6 E	4282-4302	630
Carter	4	NWc 18-8-6 E	3885-4020	20
Gypsy	8	SWc 23-7-6 E	3135-3175	2465
Carter	2	NW SW NW 26-7-6 E	3268-3280	500
Independent	1	NEc 27-7-6 E	3105-3121	2100
Stephens County				
Beaver	1	SWc NW NE NW 30-1-8 W	2275-2280	75
Magnolia	8	SW NW NW 13-1-4 W	2815-3245	100
Magnolia	4	SEc NE 13-2-8 W	1338-1348	90
Heydrick et al.	1	SWc SE NW 1-1-8 W	T.D. 2511	Dry
Razos-Aiken	1	C NW 10-1-17 W	T.D. 726	Dry
Tulsa County				
Nowata	4	SWc NE SE 30-19-12 E	T.D. 2466	Dry
Waggoner County				
Wright-Kunkel	2	CSL NW SW 3-16-15 E	T.D. 1181	Dry
Ashe Bros.	1	SWc SE 15-18-17 E	800-809	2.5M

KANSAS

Chautauqua County

Company	Well No.	Location	Depth	Init. Prod.
Borge	1	SW NE SE 31-32-10 E	1645-1670	25
Griffin-Bell	1	NEc 12-32-10 E	T.D. 2043	Dry
Coffey County				
McCullouch et al.	1	SW SE NW 18-23-16 E	T.D. 1490	Dry
Sheedy et al.	1	SW SE SE 6-22-14 E	T.D. 1833	Dry
Union	1	SWc NW 9-22-14 E	T.D. 1600	Dry
Cowley County				
Jones et al.	1	NE NW SE 20-30-6 E	T.D. 3358	Dry
Shawver et al.	1	SWc 24-31-3 E	T.D. 3400	Dry
Trees	6	SWc SE 10-31-3 E	3062-3079	30
Shawver et al.	1	NWc NE 13-31-3 E	3076-3082	50
Marion County				
Empire	2	NE SE NE 12-19-2 E	2823-2861	25
Shell	1	SE NE NE 12-19-2 E	2818-2830	35
Russell County				
Texas	1	NWc 6-13-15 W	2996-3016	55
Sedgwick County				
Bu Vi Bar et al.	6	SEc NW 6-26-1 E	3379-3384	85
Manitou	2	SEc SW 6-26-1 E	3379-3385	1185
Jones-Kirk	1	SEc NE 4-25-1 E	T.D. 3509	Dry

Completions in California, Week Ended May 25, 1929

Long Beach

Company	Well No.	Location	Depth	Init. Prod.
Bolsa Chica	Mutual 4	....	6854	50
Deeds, Carl	No. 4	....	6375	700
Hoyt, Otis	No. 2	....	7057	3500
Rio-Grande	Municipal B-11	....	6153	350
Santa Fe Springs				
Gen. Pet. Corp.	S. F. 228	....	7675	1100
Getty, Geo. F.	No. 28	....	6470	3500
Shell Oil Co.	G. H. N. 19	....	6510	1400
Shell Oil Co.	G. H. N. 20	....	6410	2600
St Helens Pet. Co.	Hill 1	....	6350	8000
The Texas Co.	Foix 4	....	6790	7800
The Texas Co.	Standlee 4	....	6830	11800
Seal Beach				
Associated Oil Co.	Bryant 2	....	4985	840
Associated Oil Co.	Hellman 2	....	5515	1212

Ventura Avenue

Company	Well No.	Location	Depth	Init. Prod.
Associated Oil Co.	Hartman 12A	....	6920	320
Rincon				
Gen. Pet. Corp.	Hobson A-3	....	6650	75
Mt. Poso				
Pet. Securities	Glide 14	....	1820	(com.-shut in)
Midway				
Republic Pet. Corp.	No. 34	....	3300	1500
Santa Barbara				
Olympic Oil and Refining Co.	Lomas 1 (shut in awaiting storage)	....	2434	1450

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended June 1, 1929

OKLAHOMA

Caddo County

Company	Well No. & Farm	Location	
Abernathy-Brown	1-Horton	SEc 8-6-13 W	
Okla. Gas Utilities	2-Williams	NE SW SW 11-4-8 W	OWD
Cotton County			
Heydrick et al.	1-Bull	SWc SE 3-1-10 W	
Cullum-Perkins	6-Priddy	SEc NE NE 3-2-10 W	
Creek County			
McCulloch	1-Davis	NWc 21-19-9 E	
Glenn-Evans et al	1-Oglesby	SWc 30-19-9 E	
Gled	1-Gilbreath	NEc NW SW 31-19-9 E	
Jackson-Wise	1-Oglesby	SE NE SE 14-18-8 E	
Apex	2-Fife	NE SW SW 28-18-11 E	
Jackson-Wise	1-Taylor	SEc NW 3-17-10 E	
Grant County			
Amerada	1-Clark	NEc NW 17-29-4 W	
Gypsy	1-Gibson	NWc NE 17-29-4 W	
Hughes County			
Pine	1-Scott	NEc 6-8-9 E	
Jefferson County			
Gypsy et al.	1-Nesmith	NE NW SE 2-7-7 W	
Lincoln County			
Magnolia	8-Sukovaty	SW NE NE 3-14-5 E	OWD
Logan County			
Shell	9-McCully	SWc SE 30-19-4 W	
Muskogee County			
Betz	1-Friday	CNL NE NE 7-15-15 E	

(Continued on Page 55)

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended June 1, 1929

(Continued from Page 54)

Company	Well No. & Farm	Location	
Okfuskee County			
Parks	1-Lovett	SWL SE NW 21-15-15 E	
Johnstone et al	1-Smith	SEc 13-13-18 E	
Independent	1-McNac	NWc 33-12-10 E	
Robinson et al	3-Savers	SW NW SE 35-11-9 E	
Minnehoma	1-Grayson	NE NW SE 31-11-11 E	
Okmulgee County			
Rounsaville et al	3-Tunley	CEL NW SE 30-12-12 E	
Prince-Anderson	1-Butler	SEc SW SW 21-12-14 E	OWD
Osage County			
Galt-Brown	6	CSL N½ NW 7-24-8 E	
Silurian	55	SW NE NW 17-23-12 E	
Craig	5	SW NW NE 8-22-11 E	
Okla. Power & Water	116	NWc SW 28-21-10 E	
Okla. Natural	1713	SE NE SW 10-21-10 E	
Okla. Power & Water	118	CNL NW SW 10-20-10 E	
Pawnee County			
Adamson	3-Parker	SW SE SE 24-21-7 E	
Adamson	4-Parker	NE SW SE 24-21-7 E	
Adamson	1-Scully	NE NW NE 25-21-7 E	
Payne County			
Transc	2-Powers	SWc NW NW 10-18-5 E	
Pontotoc County			
Benedum-Trees	1-Mathews	NEc SE 21-5-5 E	
Pottawatomie County			
Pine	2-Smith	SE SW NE 8-8-5 E	
Magnolia	1-Richardson	NW SW SW 16-7-4 E	
Indep.-Westland	2-Rhodd	SW NW NW 16-7-4 E	
Indep	1-James	NW SE SW 17-7-4 E	
Pierce	1-Sanders	NWc SW 20-7-4 E	OWD
Stauffer et al	1-Townlot	NW NW SE 18-6-4 E	
Winkler	1-Townlot	NWc SW SW SE 18-6-4 E	
Texola	1-Townlot	NEc NW SW SW 18-6-4 E	
Stogner et al	1-Townlot	NWc NE SE SW 18-6-4 E	
Diegnan et al	1-Townlot	CWL SE SW 18-6-4 E	
Texola	1-Townlot	NWc 19-6-4 E	
Seminole County			
Empire	13-Cluck	SEc NE 11-8-5 E	
Pine	3-Harjo	NW SW SE 6-8-6 E	
Texas	7-Janey	SE NE SW 11-7-6 E	
Gypsy	16-Cotcha	SE NW SW 23-7-6 E	
Mid-Continent	10-Smith	NE NW SE 5-7-7 E	
Empire	1-Fish	NEc SE 19-7-8 E	
Carter	1-Fish	SWc NW 20-7-8 E	
Blackwell et al	1-Hall	SEc 6-6-8 E	
Stephens County			
Pace et al	4-McMasters	NEc SE NW NE 13-2-8 W	
Pace et al	4-Bristowe	SWc NW 18-2-7 W	
Pace et al	1-Watkins	NWc SE NW SE 21-2-7 W	
Wagoner County			
Western Drlg. & Equip.	1-Drake	SEc NE NE SW 34-18-17 E	

KANSAS

Company	Well No. & Farm	Location	
Greenwood County			
Texas	1-Banard	SE SW NW 6-23-10 E	
Transcontinental	1-Cook	SEc NE 15-24-10 E	
Roth-Faurot	1-Welsh	NE SE SE 13-25-8 E	
Lyon County			
Statts-Spencer	1-Milner	SWc 33-21-11 E	
Marion County			
Shell	1-Rampl	NE SE SE 12-19-2 E	
Sedgwick County			
Tidal	1-Duncan	SWc SE 31-25-1 E	
Bu Vi Bar et al	1-Reed	SEc 1-26-1 W	
Davis-Skelly et al	8-Wilson	SE SW NE 1-26-1 W	
Smith County			
Phillips	1-Clydesdale	SEc NW 23-5-14 W	

TEXAS
NORTH CENTRAL AND EAST CENTRAL

Company	Well No. & Farm	Location	Survey
Brown County			
Superior et al	1-Brook	Blk-645	Padillo
Anderson	1-Jones	Sec-16 Blk-789	Delgado
Cranfill-Reynolds et al.	1-Marr	Blk-62	Tuggle
Whiteside	7-Boyson	Sec-7	ET
Lloyd	14-Stanley	Blk-139	Smith
Smith et al	1-Wilson	Blk-135	Buttermorth
Callahan County			
Bradstreet-Holden	2-Cavanaugh	Sec-98	Comal Co. Sch. Ld.
Moutray	18-Hatchett	Sec-24	D&DA
Conway-Sullivan	2-Hatchett	Sec-30	D&DA
Coleman County			
Eastland-Shell	1-Keeney	Sec-3 Blk-269	Cochran
Vacuum et al	3-Weaver	Sec-9 Blk-271	Gabel
Vacuum et al	5-Weaver	Sec-9 Blk-271	Gabel
Vacuum et al	4-Weaver	Sec-16 Blk-271	Gabel
Joiner et al	1-Rondleman	Blk-494	Young
Eastland County			
Davis et al	1-Craig	Sec-30 Blk-2	H&TC
Arnold	1-McMullen	Sec-56	BBB&C
McLester et al	1-Lee	Blk-1	Howell
Keaugh	1-Balderree	Sec-62 Blk-4	H&TC
Forrester-Starr	2-Spencer et al.	Sec-29 Blk-2	H&TC
Cranfill-Reynolds	1-Turner	Sec-30 Blk-2	H&TC
Erath County			
Fletcher-Moore	1-Coge et al.	.....	Bishop
Jack County			
FHE	1-Leffel	Abstract-256	Hughson
FHE	3-Box	Abstract-256	Hughson
Panhandle	2-Box	Abstract-256	Hughson
Panhandle	1-Box	Abstract-256	Hughson
Stephens County			
Ashe Synd	1-Hart	Sec-22 Blk-4	T&P
Shackelford County			
Hughes	1-Reynolds Cattle Co.	Sec-101	ET
Cranfill-Reynolds	1-Moberly	Sec-48 Blk-11	T&P
Roeser-Pendleton	3-Titus	.....	Williams
Roeser-Pendleton et al.	2-Titus	.....	Williams
Roeser-Pendleton et al.	1-Titus	.....	Williams
Throckmorton County			
Roeser-Pendleton et al.	3-Titus	.....	Williams
Roeser-Pendleton et al.	4-Titus	.....	Williams

NORTH TEXAS

Company	Well No. & Farm	Location	
Archer County			
May Camp Drilling	5-Prideaux	.....	Rohus
Fain-McGaha	1-Taylor	Sec-17 Blk-14	ATNCL
Pois-Johnson	3-Wilson	Sec-85 Blk-1016	Geraldine
Gohlke	5-Wilson	Blk-32	Geraldine
Cullum et al	1-Parrish	Abstract-1004	SP
Brown-United Prod.	2-Taylor	Sec-17 Blk-10	ATNCL
Pet. Prod	1-Taylor	Sec-17 Blk-10	ATNCL
Burns	1-Slopansky	Blk-64	Harris
Golding	1-Bloodworth	Abstract-60	Cartwright
Gilliland	4-Neimeyer	Sec-2415	TE&L
Johnston	1-Gravey	Sec-1802	TE&L
Peacock	1-Garrett	Abstract-676	Walker
Continental	2-Richardson	Blk-10 Abstract-269	McCoy
Clay County			
Mid-Cont. Hold	2-Stine Bros.	Blk-7	Parker Co. Sch. Ld.
Mid-Cont. Hold	3-Stine Bros.	Blk-7	Parker Co. Sch. Ld.
Wichita County			
Howell	2-Allen et al.	Abstract-129 Sec-1	HT&B
Sykes et al	1-Foster et al.	Abstract-633 Sec-2	Barwise
Golding-Cochran	1-Waggoner	Blk-23	George
Comac Drlg.-Prairie	1-Bishop	Abstract-171	Kennard
Reno et al	2-Roller	Abstract-237 Blk-8	Maverick
Hines	5-Burnett	Abstract-464	Meade
Wilbarger County			
Fain-McGaha	W-5-Waggoner	Sec-32 Blk-4	H&TC
Shaw	F-1-Waggoner	Sec-40	MEP&P
Shaw	F-2-Waggoner	Sec-40	MEP&P
Waggoner	J-2-Waggoner	Sec-24 Blk-4	H&TC
Shaw	F-3-Waggoner	.....	MEP&P
Phillips	No. S-4-Waggoner	Sec-45 Blk-4	H&TC
Phillips	U-4-Waggoner	Sec-44 Blk-4	H&TC
Empire	C-6-Waggoner	Sec-25 Blk-4	H&TC
Burton et al	I-2-Waggoner	Sec-40	MEP&P
Knight et al	D-1-Waggoner	Sec-21 Blk-4	H&TC
Knight et al	C-1-Waggoner	Sec-23 Blk-4	H&TC
Young County			
Means	1-Keith	Sec-268	TE&L
Hutchings-Jones	1-McClure	Sec-221	TE&L
Kimbrell-Lyles et al.	4-Dyer	.....	Stroud
Cont. et al	9-Campbell	Sec-1390	TE&L
Riggs et al	29-McKinley	Sec-1489	TE&L
Bradstreet	2-Richardson	Abstract-1483	Mauphin

PANHANDLE

Company	Well No. & Farm	Location	
Carson County			
Magnolia	7-Fee-244	Sec-91 Blk-4	I&GN
Stubblefield-Shell	1-Jordan et al.	Sec-104 Blk-4	I&GN
Delmar	4-Noel	Sec-198 Blk-3	I&GN
Timms	2-Jordan-Brown	Sec-113 Blk-4	I&GN
Midwest Explor	2-Cooper	Sec-5 Blk-9	I&GN
Empire	2-Fuqua	Sec-19 Blk-3	AB&M
Empire	1-Deahl	Sec-31 Blk-Y-2	(No Survey)
Herrogan	1-Noel	Sec-187 Blk-3	I&GN
Gray County			
Phillips	2-Palmer	Sec-31 Blk-B-2	H&GN
McMann	1-Palmer	Sec-31 Blk-B-2	H&GN
Texas	3-Faulkner	Sec-29 Blk-B-2	H&GN
McCollum et al	1-Meers	Sec-107 Blk-3	I&GN
Texas	4-Faulkner	Sec-29 Blk-B-2	H&GN
Champlin	2-Jackson	Sec-60 Blk-B-2	H&GN
Texas	6-Saunders	Sec-4 Blk-1	ACH&B
Texas	6-McLarty et al.	Sec-2 Blk-1	ACH&B
Operators	3-Cook	Sec-30 Blk-B-2	H&GN
Operators	2-Cook	Sec-30 Blk-B-2	H&GN
Champlin	1-Cook	Sec-20 Blk-B-2	H&GN
Phillips	2-Palmer	Sec-31 Blk-B-2	H&GN
Marland	3-Finley-Brown	Sec-32 Blk-B-2	H&GN
Marland	4-Finley-Brown	Sec-32 Blk-B-2	H&GN
Wilcox	1-Wilcox-Combs	Sec-60 Blk-3	I&GN
Wilcox	8-Wilcox-Combs	Sec-60 Blk-3	I&GN
Shell	3-McConnell	Sec-174 Blk-3	I&GN
Danciger	2-Roxana-Shaw	Sec-5 Blk-1	ACH&B
Texas	2-Patton	Sec-61 Blk-B-2	H&GN
Texas	4-Williams	Sec-6 Blk-1	ACH&B
Hutchinson County			
McMann	2-Sanford	Sec-83 Blk-46	H&TC
Phillips	1-Ebson-Johnson	Sec-66 Blk-46	H&TC
Moore County			
Amarillo	1-Perkins et al.	Sec-76 Blk-3	G&M
Skelly	9-Armstrong	.....	Proctor
McMann	3-Sneed	.....	Robinson
Skelly	8-Armstrong	.....	Proctor
Phillips	1-Wilson	Sec-157 Blk-3	TT&NO
Wheeler County			
Anderson	1-Mengeis	Sec-71 Blk-17	H&GN
Upham	1-Mengeis	Sec-71 Blk-17	H&GN
Mudge	3-Hicks	Sec-52 Blk-17	H&GN

WEST TEXAS

Company	Well No. & Farm	Location	
Garza County			
Emerald	3-Boren	Sec-136 Blk-5	H&GN
Howard County			
McGinley-Seigler	2-Hyman	Sec-92 Blk-29	W&NW
Moody	14-Roberts	Sec-136 Blk-29	W&NW
Moody	13-Roberts	Sec-136 Blk-29	W&NW
Michell County			
California	7-Foster Lease-1	Sec-6 Blk-29	T&P
Nolan County			
Phillips	1-Plunkett	Sec-66 Blk-23	T&P
Ward County			
Atlantic-Penn	1-Bennett	Sec-16 Blk-34	H&TC

Completions in Texas, Week Ended June 1, 1929

NORTH CENTRAL AND EAST CENTRAL

Anderson County

Company	Well Farm	Survey Sec. & Blk.	Depth	Init. Prod.
Humble	2-Roberts	Roberts	T.D. 3602	103

Brown County

Lloyd	13-Stanley	Smith Blk-139	415-430	8
Amer. Maracaibo	1-Cross	Honeycutt Blk-623	1130-1150	180
Paramount	9-Mayes	Ross Blk-609	547-554	3
Simmons-Jones-Longree	1-Fitzgerald	Robnett Blk-4	T.D. 5	Dry
Humble	1-Tervooen	HT&B Sec-11	T.D. 1515	Dry
Humble	12-Byler	T&NO Blk-43	T.D. 1340	Dry
Cranfill-Reynolds et al.	2-Marr	Tuggle Blk-62	T.D. 1345	Dry
Campbell et al.	1-Turner	Guin Blk-4	T.D. 800	Dry
Buder	2-Cross	Honeycutt Blk-623	T.D. 1675	Dry

Callahan County

Conway-Sullivan	1-Hatchett	D&DA Sec-30	T.D. 545	Dry
Moutray	17-Hatchett	D&DA Sec-24	T.D. 463	Dry
Texas-Pacific	10-Westerman	Comal Co. Sch. Ld. Sec-54	T.D. 308	10
Texas	5-Hatchett	D&DA Sec-24	400-410	50
Texas	4-Hatchett	D&DA Sec-24	384-400	134
Ewmo	5-Beasley	D&DA Sec-25	697-709	7

Coleman County

Hill	1-Cochran	Beniter Blk-670	T.D. 2508	Dry
Reynolds et al.	2-Gill	Armendaris	T.D. 1685	Dry
Barnsdall	1-Dupree	Cleveland Sec-4 Blk-495	T.D. 1453	Dry

Eastland County

Hickock	1-Burkett	H&TC Sec-47 Blk-4	T.D. 3427	Dry
Narthrup et al.	1-Barker	H&TC Sec-126	T.D. 1100	Dry
Texas-Pacific	2-Davenport	Roberts	3420-3438	10
Cranfill-Reynolds	1-Turner	H&TC Sec-30 Blk-2	T.D. 1325	1.5M

Erath County

Texas-Pacific	1-Smith	Stubblefield	T.D. 3340	2.5M
Culberson Bros. et al.	1-Fullbright	Holland Abst.-372	T.D. 3505	Dry

Jones County

Grisham-Hunter	1-Hester	Kratz Sec-335	T.D. 2848	Dry
McClanahan et al.	1-Hall	C&MRR Sec-3 Abst-521	1832-1840	10

Limestone County

Smith-Donahue et al.	1-Oliver	Varella	T.D. 3306	Dry

McCulloch County

Duffey-Silk	1-Terich	Melvin Blk-12	T.D. 1603	Dry
White	1-White	H&TC Blk-65	T.D. 1000	Dry

Palo Pinto County

Conway Bros.	1-Hinkson	T&P Sec-71 Blk-3	T.D. 3500	¼M

Shackleford County

Ohio Texas	3-Mathews	ET Sec-29	1134-1149	140
Ohio Texas	14-Mathews	ET Sec-29	1125-1156	111
Engle Bros.	3-Mathews	ET Sec-32	1140-1152	50
Cranfield-Rey.	1-Moberly	T&P Sec-48 Blk-11	T.D. 1300	Dry
Humble	4-Davis	T&P Sec-4 Blk-13	T.D. 1925	Dry

Stephens County

Cooper et al.	1-Compton	T&P Sec-8 Blk-7	T.D. 3925	Dry
Lone Star	1-Henry	T&P Sec-53 Blk-7	2124-2133	9.5M

Throckmorton County

Roeser-Pend. et al.	1-Titus	Williams	604-606	25
Roeser-Pend.	2-Titus	Williams	T.D. 650	Dry

NORTH TEXAS

Archer County

Brown-United Prod.	1-Taylor	ATNCL Sec-17 Blk-11	1478-1480	220
Gilliland	10-Neimeyer	TE&L Sec-2415	1399-1414	30
Gohlke	4-Wilson	Geraldine Blk-32	1565-1572	30
Madden	17-Richardson	SAR Blk-1	1278-1296	40
Moran Drlg. et al.	2-Scott	James Abst-1205	1195-1196	52
Texas et al.	2-Kemp	KWVFL Blk-67	1817-1820	65
Cont. et al.	9-Wilson	ATNCL Sec-114	T.D. 1470	Dry
Lincoln et al.	1-Abercrombie	Wiseman Abst-671	T.D. 1320	Dry
Atlantic et al.	2-Andrews	Whitaker Abst-614	T.D. 1100	Dry
Empire	1-Sterrett	SP Abst-1164	T.D. 1800	Dry
Identy	1-Brown	ATNCL Sec-97 Blk-4	T.D. 1304	Dry
McCarty	1-Wilson	Geraldine Blk-292	T.D. 1862	Dry
Pandem	5-Wallace	DCSL League-3 Blk-11	T.D. 1797	Dry
Panhandle	1-Rater	IRR Co. Abst-851	T.D. 800	Dry
Pet. Prod.-Humble	1-Falls Co. Sch. Ld.	Falls Co. Sch. Ld. Blk-60	T.D. 1310	Dry
Jeffers et al.	1-Hamilton	BBB&C Abst.-1266 Sec-6	T.D. 1124	Dry
Franklin	1-Andrews	TE&L Sec-1807	T.D. 891	Dry

Clay County

Mid-Cont.	3-Stine Bros.	Parker Co. Sch. Ld. Blk-7	1715-1750	1

Cooke County

Shell	8-Dennis	Hutchinson Abst-484	1435-1441	70
Kewanee	4-Hyman	ET Abst-363	1350-1516	150
Kewanee	16-Hyman	ET Abst-363	1045-1193	91
Benson-Benson	1-Gibson	Clubb Abst-279	T.D. 1511	Dry
Kewanee	1-Dennis	Hernandez Abst-437	T.D. 1956	Dry
Lloyd	2-Wheelock	Underwood Abst-1073	T.D. 1397	Dry

Grayson County

Murchinson	1-Wahl	Ingram	T.D. 894	6M

Montague County

Benson-Amer.	1-Hoffman	Tilley Abst-734 Blk-25	T.D. 1759	Dry

Wichita County

Bowen	1-Fossett	Templeton Sec-2	T.D. 1438	Dry
King Royalty	2-Boyd	Lewis Blk-12	1774-1785	130
Heydrick-Stumpf	2-Boyd	Lewis Sec-11	1780-1790	60
Prod.-Drlg.	3-Allen	KWVFL Sec-26	1757-1762	45
Barclay-Faith	1-Kemp	KWVFL Blk-40	1021-1031	10

Wilbarger County

Golding-Cochran	4-Waggoner	H&TC Sec-32 Blk-4	2400-2406	250
Waggoner	3-Waggoner	H&TC Sec-32 Blk-4	2400-2405	210
Empire	8-Waggoner	H&TC Sec-32 Blk-4	1824-1850	160
Empire	4-Waggoner	H&TC Sec-32 Blk-4	1839-1854	100
Grisham	1-Waggoner	H&TC Sec-27 Blk-6	T.D. 2365	Dry

Young County

Pennell	1-Cox	YCSL Sec-18	T.D. 817	Dry
Robertson Drlg.	4-Gilmore	YCSL Blk-14	T.D. 583	8
Riggs et al.	28-McKinley	TE&L Sec-1489	578-601	25
Cont. et al.	7-Campbell	TE&L Sec-1390	878-889	135

PANHANDLE

Gray County

Shamrock	2-Chapman	H&GN Sec-70 Blk-25	T.D. 2916	Dry
Phillips	1-Palmer	H&GN Sec-31 Blk-B-2	2800-2816	1340
Eslick-McKinney	1-Hopkins	H&GN Sec-84 Blk-B-2	T.D. 3267	Dry
Camel	1-Harrah	I&GN Sec-150 Blk-3	3154-3225	190
Texas	1-Faulkner	H&GN Sec-29 Blk-B-2	2802-2814	1462
Dye-Gillette	1-Noel	I&GN Sec-187 Blk-3	3207-3212	200
Wilcox	1-Wilcox et al.	I&GN Sec-37 Blk-3	2635-2900	360
Texas	5-Bowers	H&GN Sec-89 Blk-B-2	2896-2900	2500
Operators	1-Faulkner	H&GN Sec-30 Blk-B-2	2780-2790	3640

Hartley County

Canadian River	10-Bivins	G&M Sec-18 Blk-2	T.D. 3660	2M

Hutchinson County

Gulf Prod.	45-Dial	H&TC Sec-25 Blk-47	2750-2778	73
Mid Pool	1-Johnson	H&AB Sec-1 Blk-X-3	T.D. 3080	20M
Marland	1-Johnson	B&B Sec-5 Blk-1	3050-3052	590
Gulf Prod.	44-Dial	TC Sec-36 Blk-M-23	3003-3075	147

Wheeler County

Mudge	2-Hicks	H&GN Sec-52 Blk-17	1738-1898	31M

WEST TEXAS

Brewster County

Forest	1-Skinner	GC&SF Sec-100 Blk-2	T.D. 1540	Dry

Fisher County

Brickerstoss-Simmons	1-McWhiriter	H&TC Sec-295 Blk-2	T.D. 2000	Dry

Glasscock County

Merriweather et al.	2-McDowell	T&P Sec-35 Blk-34	T.D. 3875	Dry

Howard County

Harrison	1-Dodge	T&P Sec-9 Blk-30	T.D. 3257	Dry
Marland	1-Clay	W&NW Sec-127 Blk-29	T.D. 1851	Dry
Moody	14-Roberts	W&NW Sec-137 Blk-29	2575-2616	300

Irion County

Pecos Valley	1-Stock	Wallestein	T.D. 1296	Dry
Mertzon Int.	1-Horney	H&TC Sec-2 Blk-3	T.D. 1300	Dry

Mitchell County

Ellis et al.	1-Ellwood	SP Sec-30 Blk-18	T.D. 647	1M

Winkler County

Humble	11-Hendricks	PSL Sec-10 Blk-B-12	2850-2919	469 (1 Hr.)
Simms-Southwest	1-Sealy	BMMMB&A Sec-50 Blk-F	2845-3012	30
Southern Crude.	T-671F5-Hend.	PSL Sec-33 Blk-B-12	2745-3009	96
Barnsdall	2-Morton	PSL Sec-26 Blk-B-12	T.D. 3124	Dry

Completions in North Louisiana and Arkansas, Week Ended May 31, 1929

Louisiana—Caddo Parish

Company	Well	Location	Depth	Yield
Falcon Drilling Co.	Muslow B-1	29-20-15	2302	25 bbls.
Standard Oil Co. of La.	W. K. Henderson No. 1	7-19-14	2427	sw abandoned
Root Refineries	Liebman No. 1	12-19-15	2588	dry, aband.

Bossier Parish—Elm Grove

Woodley Pet. Co.	Whitehurst No. 4	35-16-12	2422	2M gas

Ouachita Parish—Monroe

Interstate Nat. Gas Co.	Hunter-McCormick No. 5	40-20-3E	2170	6M gas
LaDel Oil Properties	Fee No. 47	6-19-5E	2185	7M gas
Magnolia Pet. Co.	U. S. Gov. No. 3	18-19-5E	2265	400,000 ft. gas
Pioneer O. & G. Co.	Feedicar No. 1	18-18-5E	2277	5M gas

Sabine Parish

R. L. Gay, Trustee	Bowman-Hicks No. 2	14-7-14	3621	satl water, abn.
R. L. Gay, Trustee	Bowman-Hicks No. 3	14-7-14	2178	15 bbls.

Tensas Parish

Company	Well	Location	Depth	Yield
Enochs et al.	Curry No. 1	39-11-12E	3765	salt water, abn.

Union Parish—Monroe

Imperial O. & G. Prod. Co.	Pullen No. 1	20-20-4E	2155	8M gas

East Texas—Harrison County—Waskom

Nick Barhare	Saunders No. 2	E. M. Jenkins HRS	2405	1M gas
C. H. Lyons et al.	M. M. O'Banion No. 2	W. H. Adams HRS	2398	1M gas

Arkansas—Johnson County

Ark. Nat. Gas Corp.	Bynum No. 2	12-10-24	3125	dry, abn.

Union County

Ohio Oil Company	Lynn No. 1	7-17-13	3077	900 bbls.
Grimes Bros.	Hill No. 2	7-18-14	2260	20 bbls.
J. O. Moore, Trustee.	Union Sawmill No. 1	11-18-12	3304	dry, abn.

Reduction of Vacuum Fails to Yield Economies in Glenn Pool

Staff Special
TULSA

EXPERIMENTAL vacuum reductions, with an eye to future repressuring operations, have been made in the Glenn pool, Creek and Tulsa counties, Oklahoma, and its north extension.

Crude oil production was not affected materially in either place. However, in the Glenn pool proper, where the sand is of a loose, porous nature, it was found that the production of casinghead gas was lessened to such an extent that the revenues from the properties affected declined enough to more than offset the lowered operating expense.

In the north extension, where the sand is harder, and less porous, no hastening of the normal rate of decline of the casinghead gas production was noticed.

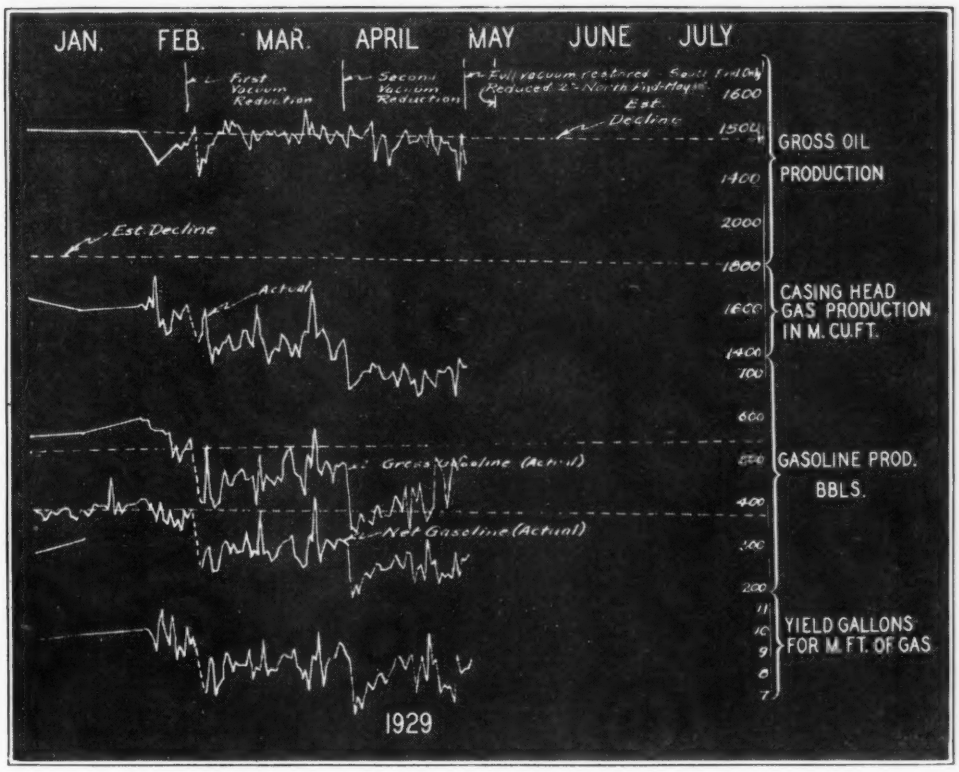
The vacuum on the Glenn pool proper has been restored to its normal 27 inches. In the north extension, further experimental reductions are being made.

As yet no definite plans for repressuring the area have been formulated. An engineers' committee, consisting of D. L. Trax, Gypsy Oil Co., R. R. Hawkins, The Texas Co., Chase Sutton, Pure Oil Co., C. C. Carlisle, Prairie Oil & Gas Co., and John E. Roth, Tidal Oil Co., has met a few times for the purpose of outlining a repressuring plan of action. After approval by the executives of the companies represented, the plan will then be submitted to the independent operators of the area for their approval and cooperation.

Reduction of vacuum, naturally the first step toward repressuring the area, was undertaken Feb. 16, 1929. By agreement of the operating companies affected, the reduction made at first was one inch. On April 1 vacuum was reduced an additional inch. Although not affecting the *quantity* of the oil, the *quality* was improved a little, the gravity climbing from 34.7 degrees A.P.I. gravity to 35.5 degrees, enough to increase the price three cents per barrel by putting it in the next higher bracket.

Under the lessened vacuum the decline in casinghead gas production, with a consequent falling off of gasoline production, was so marked that it was decided to restore the vacuum to its original amount. Net crude oil and gasoline production is the yard stick by which the success or failure of the lowered vacuum had to be measured.

Graphical comparison of the actual oil and gasoline production with the extrapolated curves of the estimated amounts show that, in the Glenn pool proper and the north extension, the



Graphical representation of the results obtained by vacuum reduction in the Glenn pool. The chart is made up from figures covering approximately one-third of the wells in the area, and is typical of the results throughout the field

The following table is prepared from the figures obtained by one company operating in both the Glenn Pool and the north extension. They cover about one-third of the total wells, and are indicative of the results obtained by all companies reducing vacuum in the Glenn area.

Period	Daily Av. Gross Oil Prod. (Bbls.)	Gravity	Price	Amount
Feb. 1-15	1495.1	34.7°	$1.14	$1704.41
Feb. 16-Mar. 31	1527.0	35.5	$1.17	$1786.59

Period	Daily Av. Net Gasoline Production (Bbls.)	Price per Barrel	Amount	Total Av. Daily Income
Feb. 1-15	402.8	$2.83	$1139.92	$2844.33
Feb. 16-Mar. 31	318.0	$3.10	$ 976.63	$2763.22
Daily Av. Loss				$ 81.11

revenue fell roughly $300 a day below what it would have been had the vacuum been continued. Savings effected by labor reductions and unoperated plants pared this figure down to about one per cent of this amount.

But all the loss came from the Glenn pool proper and none from the north extension. The extension, in fact showed slightly increased net revenue, a state of affairs which has led to the restoration of the full vacuum in the Glenn pool, and further reductions in vacuum as applied to the north extension. Sand conditions are believed to be responsible for the differing performances of the neighbor pools.

Although the tests have not been of sufficient length for the real significance of the figures to be apparent as yet, it is noteworthy that, in the Glenn pool proper, with its looser sand conditions, pulling jobs caused by cup troubles declined some 20 per cent. In the north extension, where the sand is harder, cup-caused pulling jobs increased about 18 per cent. With but two months history of lessened vacuum to compare with previous records, the full significance of this condition is not apparent.

The Glenn pool was the first major oil field to be developed in Oklahoma. It dates back to 1906, when the Galbreath and Chesley No. 1 Ida Glenn, in the center of the SE of 10-17N-12E was completed for 75 barrels initial production at approximately 1475 feet. The sand was then called the Glenn, but has since been correlated with the Bartlesville. The test was a wildcat, no attention being paid to geological conditions. Indeed, had the location been staked half a mile farther east, there would have been a dry hole instead of a discovery well.

The field was rapidly extended west and north, reaching a peak production about a year after the discovery of some 120,000 barrels daily, of which about 80,000 barrels was marketed, the rest being run to storage. Per acre recoveries have varied widely over the field, reaching as high as 40,000 barrels in some instances. The average has been about 10,000 barrels. The producing wells which had an initial production of from 50 to 500 barrels per day had an average sand thickness of about 100 feet. At present, about 2200 wells, with a per well daily average of about two barrels on more than 19,000 acres, contained in the Glenn pool proper, with the northwest extension swelling the total number of wells to approximately 4000.

It is believed that the accumulation of the oil in the producing sand was not due to the local foldings, but was due to the pinching out of the sand body on the eastern or up dip side of the field.

New Patents

Prepared by R. E. Burnham, patent and trademark attorney, Continental Trust Building, Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

May 14, 1929

REFINING

Process of refining hydrocarbon oils—Harry K. Ihrig, Berkeley, Cal., assignor to Associated Oil Co., San Francisco, Cal. Filed June 15, 1927. No. 1,712,619.

Process for the conversion of hydrocarbon oils—Joseph F. Donnelly, Lemont, Ill. Filed Nov. 21, 1924. No. 1,712,789.

Method of refining mineral oils—Arthur Lachman, Berkeley, Cal., assignor to Richfield Oil Co. of California. Filed May 18, 1926. No. 1,712,960.

Method of separating solids from oil—John C. Deacon, Bakersfield, Cal., assignor to Standard Oil Co. of California. Filed Dec. 10, 1924. No. 1,713,117.

Apparatus for distilling oil—Alfred Schwartz, Montclair, N. J. Filed Nov. 6, 1925. No. 1,713,149.

Filtering material—Henry Blumenberg Jr., Los Angeles, Cal. Filed Aug. 10, 1927. No. 1,713,250.

Filtering material—Henry Blumenberg, Jr., Los Angeles, Cal. Filed Aug. 10, 1927. No. 1,713,251.

Process of treating mineral oils—Henry Blumenberg, Jr., Los Angeles, Cal. Filed Oct. 24, 1927. No. 1,713,252.

Process of distilling liquid mixtures—David G. Brandt, Westfield, N. J., assignor to Heat Treating Co., New York, N. Y. Filed March 24, 1920. No. 1,713,254.

Method and apparatus for distilling and fractioning oil—David G. Brandt, Westfield, N. J., assignor to Heat Treating Co., New York, N. Y. Filed April 8, 1921. No. 1,713,255.

Apparatus for distilling liquid mixtures—David G. Brandt, Westfield, N. J., assignor to Heat Treating Co., New York, N. Y. Filed March 24, 1920. No. 1,713,256.

PRODUCTION

Float drill pipe—Charles E. Wood, Los Angeles, Cal. Filed Feb. 23, 1927. No. 1,712,803.

Portable rotary assembly—Hugh M. Rinehart, Long Beach, Cal., assignor to Star Drilling Machine Co. Filed Sept. 15, 1926. No. 1,712,846.

Universal polish-rod rotor (for the pumping-rod of a well-pump)—Alexander Boynton, San Antonio, Tex. Filed Oct. 8, 1926. No. 1,712,868.

Apparatus for cementing oil wells—Donald D. Burch, Okmulgee, Okla. Filed June 21, 1927. No. 1,712,948.

Anchor for pipes in wells—Howard F. Smith, Houston, Tex. Filed April 26, 1927. No. 1,713,150.

Derrick reenforcement—Arthur L. Day, Tulsa, Okla., assignor to Braden Steel & Winch Co., same place. Filed Jan. 13, 1928. No. 1,713,217.

Tubing oil saver—Paul Arbon, Tulsa, Okla., assignor to Paul Arbon & Co., same place. Filed June 16, 1926. No. 1,713,364.

Pump-jack—Cloise H. Baldwin, Fort Worth, Tex. Filed Dec. 6, 1927. No. 1,713,461.

MISCELLANEOUS

Automatic shut-off for liquid-delivery systems—John J. Hawxhurst, Brooklyn, N. Y., assignor to Liquid Dispensing Systems, Inc., same place. Filed March 17, 1927. No. 1,712,498.

Portable revolving motor-oil stand—John J. Moffa, Acto, N. J. Filed April 13, 1928. No. 1,712,577.

Apparatus for recovering gasoline—Harold B. Bernard, Tulsa, Okla., assignor to Sinclair Oil & Gas Co., same place. Filed May 8, 1924. No. 1,713,323.

Oil-pump—Arthur E. Davenport, Maywood, Ill., assignor to Oil Products Appliance Co., same place. Filed July 30, 1927. No. 1,713,424.

Pump—Curtis H. Edwards, Los Angeles, Cal., assignor to Boyle-Dayton Co., same place. Filed June 23, 1924. No. 1,713,501.

May 21, 1929

REFINING

Art of Cracking Hydrocarbons—Eugene L. Herthel, Chicago, Ill., and Harry L. Pelzer, Highland, Ind., assignors to Sinclair Refining Co., New York, N. Y. Filed June 11, 1927. No. 1,714,090.

Art of Cracking Hydrocarbon Oils—Eugene C. Herthel, Chicago, Ill., and Harry L. Pelzer, Highland, Ind., assignors to Sinclair Refining Co., New York, N. Y. Filed June 11, 1927. No. 1,714,091.

Distillation of Oil—Albert E. Miller, Westfield, N. J., assignor to Sinclair Refining Co., New York, N. Y. Filed June 11, 1927. No. 1,714,097.

Dewaxing of Oil—Ernest B. Phillips, East Chicago, Ind., and James G. Stafford, Chicago, Ill., assignors to Sinclair Refining Co., New York, N. Y. Filed Feb. 19, 1924. No. 1,714,133.

Apparatus for Treating Oils—George W. Wallace, San Francisco, Calif. Filed Oct. 24, 1924. No. 1,714,198.

Oil-Cracking Process—Alfred Schwartz, Upper Montclair, N. J., assignor to Coal & Oil Products Corporation. Filed May 20, 1925. No. 1,714,454.

PRODUCTION

Deep-Well Apparatus—Charles A. Johnson, Perry, and John I. Martin, Enid, Okla. Filed Aug. 3, 1926. No. 1,713,604.

Compensating Packing for Inserted Pumps—John A. Yerkes and Rees H. Lemmon, Long Beach, Calif. Filed Jan. 22, 1927. No. 1,713,808.

Deep-Well Jet Pump—Joseph McAfee, Avalon, Calif. Filed June 28, 1926. No. 1,713,848.

Air-Lift Pump—Ralph H. Tucker, Los Angeles, Calif. Filed Nov. 24, 1925. No. 1,714,330.

Borehole and Other Pumps—Hermann Knab, Nuremburg, Germany. Filed June 27, 1927. No. 1,714,425.

Working Barrel—Walter A. O'Bannon, Tulsa, Okla., assignor to Walter O'Bannon Co., same place. Filed May 18, 1927. No. 1,714,434.

Submerged Lifting-Pump for Deep Wells—Harry Sauver, Berlin, Germany. Filed Oct. 7, 1926. No. 1,714,440.

MISCELLANEOUS

Grease Bucket Pump—Hans M. Boe, Minneapolis, Ind., assignor to Boe Mfg. Co., same place. Filed Feb. 9, 1922. No. 1,713,517.

Display-Cabinet—Walter F. Kemball, Westfield, N. J., and Harry M. Rugg, New York, N. Y., assignors to Vacuum Oil Co., New York, N. Y. Filed May 11, 1927. No. 1,713,661.

Means of Distributing Fire-Quenching Foam on Floating Decks (of oil-tanks)—Charles R. Gallagher, Los Angles, Calif., assignor to Consolidated Steel Corporation, same place. Filed July 23, 1927. No. 1,714,015.

Dispensing apparatus—Frank S. Barks, St. Louis, Mo. Filed Jan. 21, 1928. No. 1,714,122.

Method of Distributing Heavy Lubricants—George L. Moore, Chicago, Ill., assignor to Standard Oil Co. of Indiana. Filed Oct. 22, 1925. No. 1,714,184.

Air-Cooled Floating roof (for oil-storage tanks)—Charles F. H. Bonhardt, Los Angeles, Calif. Filed Jan. 14, 1928. No. 1,714,207.

Liquid-Seal Expansion Roof—Charles F. H. Barnhardt, Los Angeles, Calif. Filed Feb. 1, 1928. No. 1,714,209.

Catch-Bowl for Oil-Trucks, Oil-Pumps, and Pipe-Lines—Sven A. Yelmgren, Galesburg, Ill. Filed Dec. 12, 1927. No. 1,714,338.

Apparatus for Dispensing Gasoline and the Like—Sherburne R. Rockwell, Waterbury, Conn. Filed Sept. 13, 1927. No. 1,714,447.

Scientific Well Spacing Preventive For Overproduction Epidemics

By W. P. Haseman*

THE term "OVERPRODUCTION" of oil represents a condition in the petroleum industry produced by the occurrence of a marked increase in the rate of oil production, coincident with a decrease in profits on oil produced.

The increase in the rate of oil production is generally caused by the chance discovery and simultaneous development of two or more major pools while the decrease in profits is caused by a reduction in the market price of oil.

The overproduction condition happens much as an epidemic and is to be viewed and accepted as representative of a natural and normal course of events in a progressive enterprise. It is a condition which cannot be prevented but which will respond to scientific treatment. Its course and hazardous effects of waste in the yield of profits and oil can be altered and controlled in a large measure by the proper utilization of science in the application of the well method of producing oil.

Oil producers have endeavored to control overproduction and its hazards of waste through measures which restrict the drilling and prorate the production of wells. These measures, if carried out, would unquestionably reduce the rate of oil production and thus alter the minor phase of the overproduction condition.

Close study, however, reveals the fact that they may, and in general will, increase the hazards of waste. They interfere with the scientific application of the well method of producing oil with the result that wells are improperly spaced, timed and operated.

Field data and scientific knowledge are available to prove that the scientific application of the well method of producing oil is a measure of first importance in the control of overproduction and its hazards of waste in the yield of profits and oil from properties. The proper spacing and simultaneous completion of wells reduce waste, with an increase in the rate of oil production and the proper operation of wells reduces waste with a decrease in the rate of oil production. It is therefore possible through the scientific application of the well method of producing oil to reduce waste and control the rate of oil production.

Field and computed data are given in Table I for four producing prop-

*Consulting engineer, Oklahoma City.

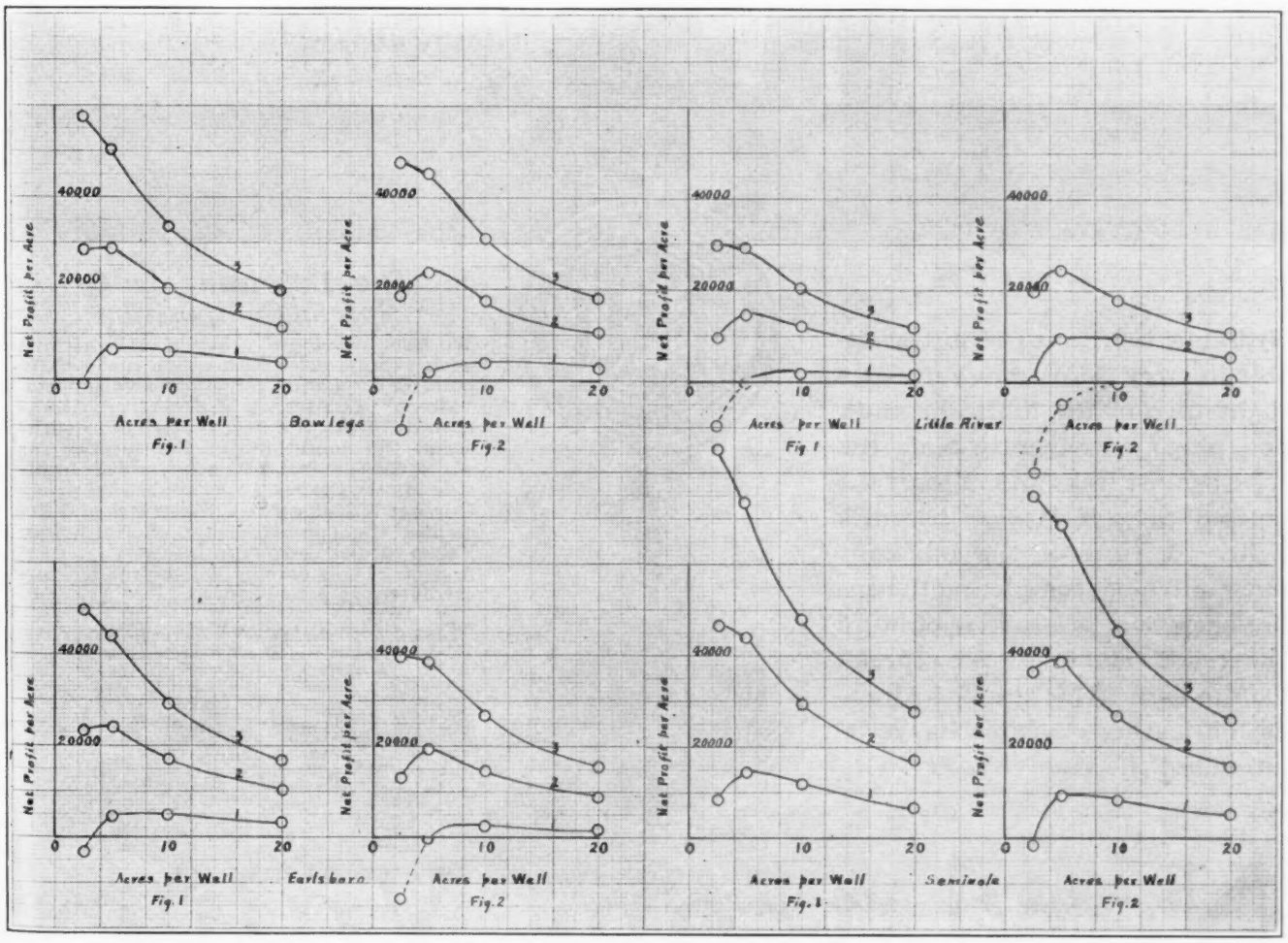


Chart 1—Graphical picture of the relation of profits per acre to the acres per well shown in Table 1

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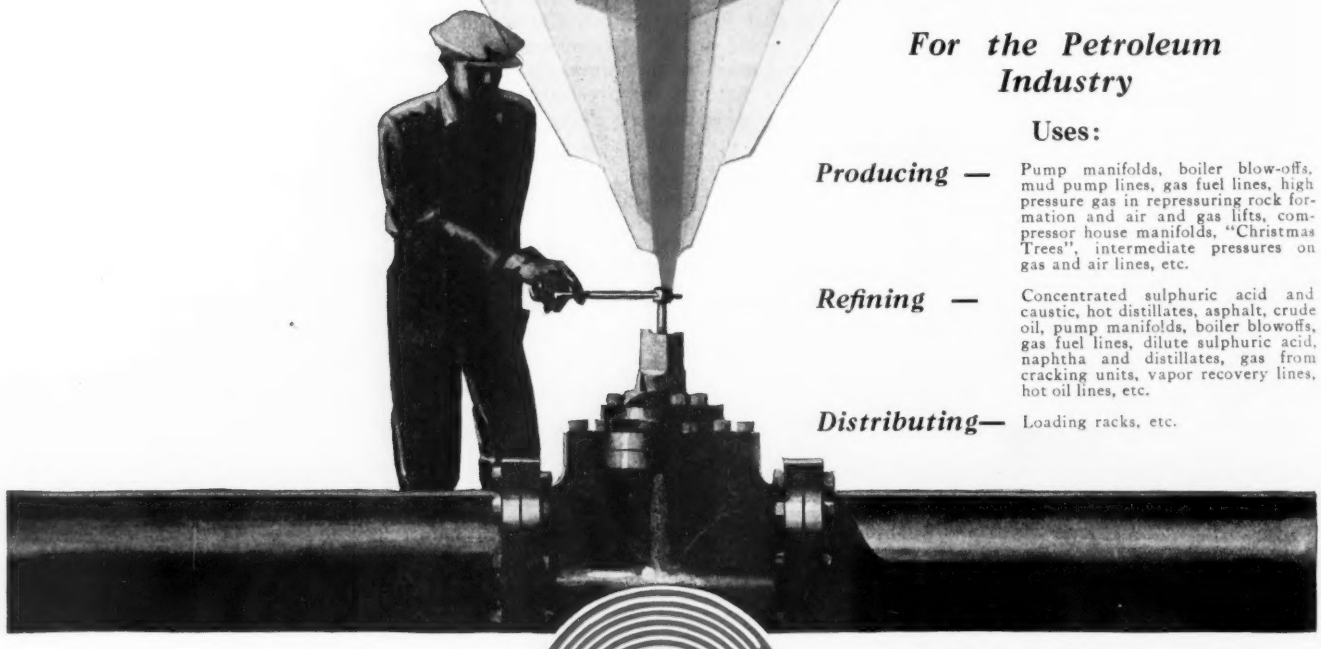

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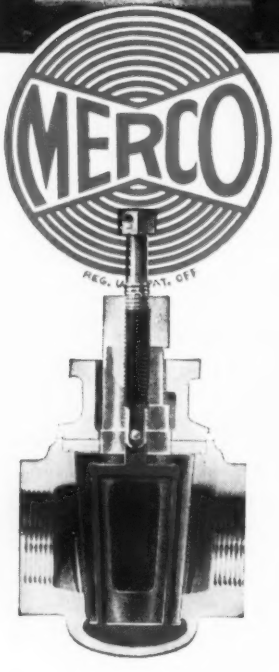

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Data on Varying Profits from Well-Spacing

FIELD		BOWLEGS				EARLSBORO				LITTLE RIVER				SEMINOLE			
Acres per Well.....		2.5	5.0	10.0	20.0	2.5	5.0	10.0	20.0	2.5	5.0	10.0	20.0	2.5	5.0	10.0	20.0
Ult. per Well.....		183600	273600	342000	385200	167200	246400	308000	347600	126767	186080	232600	262838	241176	371040	463800	542094
Net to Producer...		160650	239400	299250	337050	146300	215600	269500	304100	110921	162820	203525	229984	211029	324660	405825	458583
Net Acreage Yield..		64260	47880	29925	16852	58520	43120	26950	15205	44368	32564	20352	11499	84411	64932	40582	22929
Net on Oil—$0.50..		32130	23940	14962	8426	29260	21560	13475	7602	22184	16282	10176	5749	42205	32466	20291	11464
Discounted Net....		29206	21761	13600	7659	26597	19598	12249	6910	19965	14800	9250	5225	38364	29511	18444	10420
Net Profit	$0.50	—794	6761	6100	3909	—3403	4598	4749	3160	—10035	—200	1750	1475	8364	14511	11944	6670
Per Acre	1.00	28412	28522	19700	11568	23194	24196	16998	10070	9934	14600	12000	6700	46728	44022	29388	17090
Well Cost $75,000.00	1.50	57618	50263	33300	19727	49791	43794	29247	16980	29895	29400	20250	11925	85092	73533	47832	27510
Net Profit	$0.50	—10794	1761	3600	2659	—13403	—402	2249	1910	—20035	—5200	—750	225	—1636	9511	8444	5420
Per Acre	1.00	18412	23522	17200	10318	13194	19196	14498	8820	—70	9600	9500	5450	36728	39022	26888	15840
Well Cost $100,000.00	1.50	47618	45263	30800	17977	39791	38794	26747	15730	19895	24400	17750	10675	75092	68533	45332	26260
Lease.....		80 Acres—8 Wells				80 Acres—8 Wells				40 Acres—4 Wells				40 Acres—4 Wells			
Acreage Yield.....		Estimated—34200 Bbls.				Estimated—30800 Bbls.				Estimated—23260 Bbls.				Estimated—46380 Bbls.			
Average Well.....		Initial Prod.—3600 Bbls.				Initial Prod.—4200 Bbls.				Initial Prod. 1163 Bbls.				Initial Prod.—4638 Bbls.			
Fig. 1.....		Well Cost—$75,000				Well Cost—$75,000				Well Cost—$75,000				Well Cost—$75,000			
Fig. 2.....		Well Cost—$100,000				Well Cost—$100,000				Well Cost—$100,000				Well Cost—$100,000			
Curves.....		(1) $0.50; (2) $1.00; (3) $1.50				(1) $0.50; (2) $1.00; (3) $1.50				(1) $0.50; (2) $1.00; (3) $1.50				(1) $0.50; (2) $1.00; (3) $1.50			

Table 1—Field and computed data for four properties in Seminole on yield in profits and oil per acre with four well-spacing programs

erties, one in each of the four oil pools, Bowlegs, Earlsboro, Little River and Seminole to illustrate the value of the scientific application of the well method of producing oil as a measure to control the hazards of overproduction. The data give the yield in profits and oil per acre with

1. Four programs of spacing of wells, namely 2.5, 5, 10, and 20 acres per well.

2. Two well costs, namely $75,000 and $100,000.

3. Three net market prices per barrel for oil, namely $0.50, $1.00, and $1.50.

The curves represented on Chart 1 give a graphical picture of the relation of profit per acre to the acres per well.

It is seen from Table I, for example, on the Bowlegs lease, that the average well on the lease had an initial production of 3600 barrels, with an estimated ultimate yield of 342,000 barrels for a spacing of one well to ten acres. It is computed from special knowledge and formulae developed by the writer that the average well on this lease, for a spacing of one well to two and five-tenths acres under a proper completion and operation program, would yield an ultimate of 183,600 barrels. The yield of the average well for a spacing of one well to five acres is 273,600 barrels and for one well to 20 acres is 385,200 barrels.

Table I also shows that for a net price of one dollar per barrel of oil with a well cost of $75,000, an acreage yield of 54,720 barrels would have been produced from a spacing of one well to five acres at a profit of $28,522 per acre, against an acreage yield of 34,200 barrels at a profit of $19,700 per acre from a spacing of one well to ten acres.

The table and chart reveal the fact that in general there was a great waste in the yield of profit and oil for each of the four properties due to the improper spacing of wells. The waste would have been enormous had the spacing been wider, for example, one well to each 20 or 40 acres.

IN a recent article* Dr. Haseman discussed the relation of well spacing and mode of operating wells to ultimate yield. In the present article he sets up probable recoveries on specific properties under different spacing programs, with estimated profits under the different programs.

"Overproduction," writes Dr. Haseman, "is dual in nature and composed of two related component parts:

1—Increased rate of production, essentially a feature of quantity production—so common, popular and profitable in modern business.

2—Hazards of waste in yield of profit and oil, essentially the result of unscientific operation and management.

"In the production branch of the oil industry wells spaced too wide and delayed unduly long in completion leave 'dead' oil, unrecoverable by any method (repressuring, flooding, mining, etc.) with adequate and secured profits, but which could have been produced by the original natural energy stored in the oil and gas with increased yield of profits and oil provided organized knowledge had been utilized in the proper spacing, timing and mode of operation of wells.

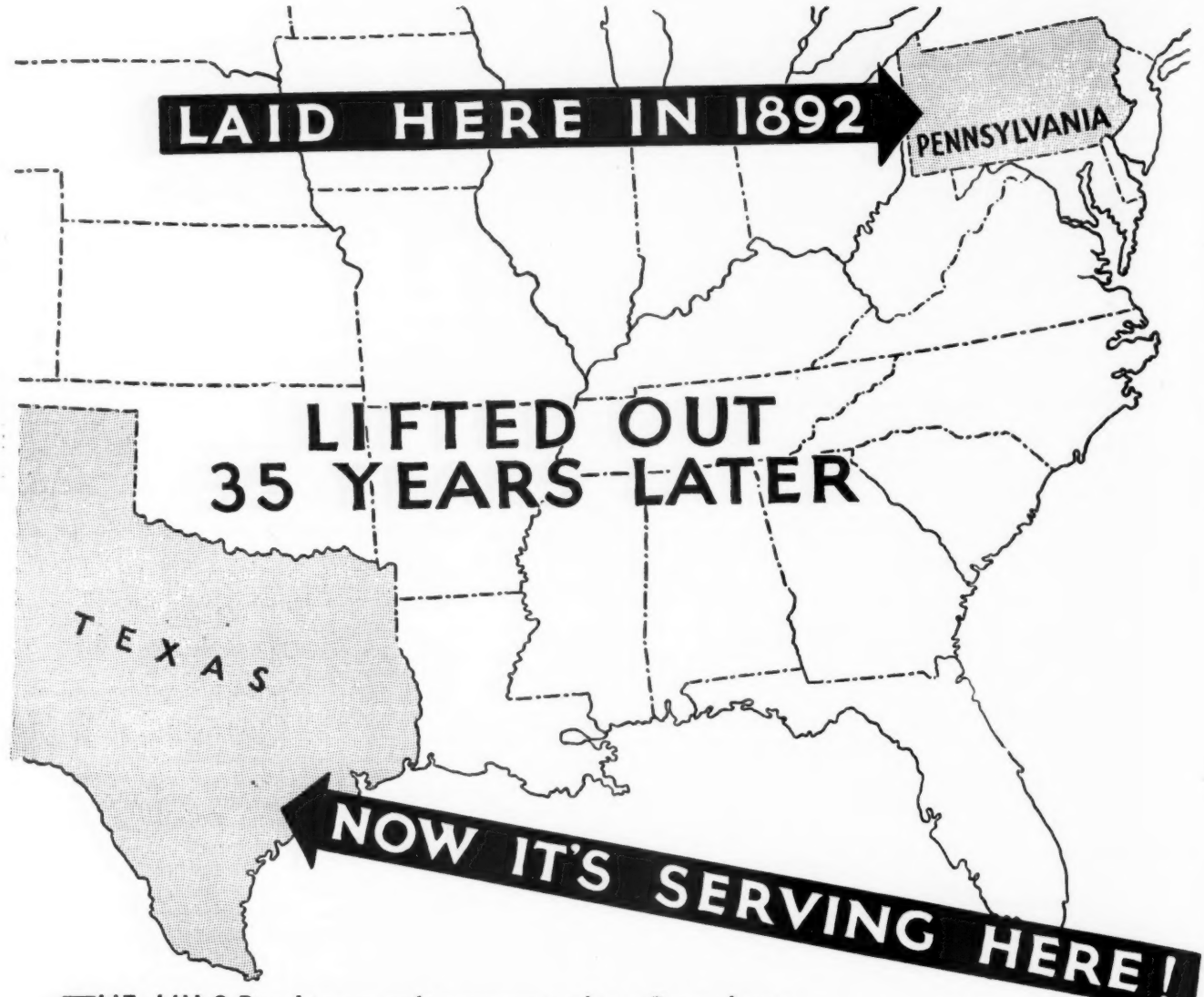
"Any measure that will either increase or secure the yield of profits and oil will certainly control the hazards of overproduction."

*A Formula Method for Well Spacing and Rate of Production, page 59, May 8 issue, NATIONAL PETROLEUM NEWS.

CLEVELAND, May 29.—The trial of the patent litigation between the Brooks Engineering Corp. and the Oil Conservation Engineering Co. has recently been completed before a master appointed by Judge Jones of the U. S. District Court of Cleveland. This litigation involves various patents owned by the Oil Conservation Engineering Co. covering OCECO tank equipment and which it is claimed have been infringed by the Brooks Engineering Corp. of Los Angeles. A decision in this suit is expected sometime in July.

The first of a series of booklets on industrial plant lubrication has been prepared by the research staff of the E. F. Houghton & Co. Copies may be obtained, free of charge, from the company's Philadelphia office, Third, American and Somerset Sts.

NEW YORK, May 31.—Illustrative of the range of activity covered by the oil industry, here are a few of the groupings of employes, as pointed out by the American Petroleum Institute: the geologist, the lease man, the driller, the scout, the production engineer, the pipe liner, the still man, the refinery engineer, the chemist, the tank truck driver, the filling station attendant, the curb man, the marketer and the dealer, also the captain and oiler of a tanker.



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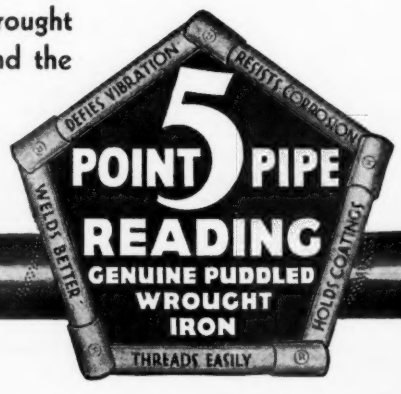

West Texas

Conditions Sometimes Offer New Possibilities for Profits

By Paul Truesdell
N. P. N. STAFF WRITER

Article 6

W. B. Hassett

CLEVELAND, May 31

OPPORTUNITIES for refiners seem to be many in West Texas and not all of them lie along strictly conventional lines. Some of them perhaps are hard to see.

There appear to be possibilities for making money in some cases by fitting a refinery into a particular set of conditions and operating it to suit those conditions. In other cases, profitable advantage can be taken of an extraordinary chance to make a special product to be sold in a special market.

Not all of these possibilities are being overlooked.

At least two plants in West Texas are being operated under special conditions, one at Wickett, in Ward county and one at San Angelo, in Tom Green county.

The first is owned and operated by the Wickett Refining Co. and the second by the San Angelo Refining Co. Both are subsidiaries of Imperial Refineries of which W. B. Hassett is president. Headquarters of Imperial Refineries is in Tulsa. The other two companies comprised in Imperial Refineries are the Imperial Refining Co. with a plant at Ardmore, Okla., and the Kettle Creek Refining Co. with a plant at El-Dorado, Ark.

C. M. Alexander, for several years employed by the Gulf Refining Co. as a research and development chemist and later for several years in refinery consulting engineering practice in Tulsa is general manager of refineries in the Imperial organization.

I am indebted to Mr. Alexander for the information concerning the company's two West Texas plants.

The Wickett refinery is perhaps the only plant in West Texas not running on crude oil. The plant was built to make a profit by refining and marketing products from a portion of the crude oil that another refinery did not care to handle.

It has been stated before in this series that the willingness of the railroads operating in that country to make long time fuel oil contracts with refiner who would build plants and create freight business for the railroads in transporting the products was a great factor in the building of many of the plants there. Indeed, it seems doubtful if some of the refineries would have been built at all except for the assurance of revenue resulting from the signed fuel oil contracts with the railroads.

One of the refining companies that has a contract with a railroad for fuel oil is the Bluebonnet Oil Refining Co. This company has a refinery rated at 6000 barrels daily crude capacity in Wickett. Selling fuel oil is this company's chief interest. To make suitable fuel oil, of course, the West Texas crude has to be topped.

Inasmuch as the Bluebonnet company did not care to process the lighter fractions to make finished gasoline, the Hassett interests made a deal whereby the latter would take over the tops from the former's plants and finish them into refined products. The Bluebonnet refinery operates on Winkler county crude and the tops which it was proposed to sell to the Wickett Refining Co. amount to about 30 to 35 per cent of the crude.

The Wickett Refining Co. built a refinery adjoining that of the Bluebonnet company, designed to handle 1200 barrels a day of tops. The plant consists simply of one shell still and a bubble tower.

It was found that the tops were well adapted to make a good yield of a gasoline or naphtha having high anti-knock value. The product is so fractionated as to give an initial boiling point of around 130 and an end point of about 430 or below.

When the refinery was started, the Standard Oil Co. of Indiana had exclusive marketing rights for Ethyl gas in the 10 states in which it markets and this made competition difficult sometimes for other companies. The naphtha made by the Wickett Refining Co. found a ready market in Standard of Indiana territory, particularly, because it was held to be peculiarly adapted, on account of its boiling range and its high anti-knock value, for blending with natural gasoline or benzol to make a high volatility motor fuel suitable for high compression engines.

The product is very carefully treated, Mr. Alexander says, being sweet to the doctor, non-corrosive and possessing water white color that is stable in sunlight. The treating cost is low, however, it is stated because an effective and inexpensive process for reclaiming litharge from the doctor solution is in operation there.

ALTHOUGH Ethyl gasoline since March 1 has been available to other companies in Standard of Indiana territory, the product of the Wickett Refining Co. still enjoys a good market as a blending fuel, it is said.

Other products made are a light distillate which is sold as a furnace oil and gas oil. The former is straw colored, has a gravity of 32 to 26 A.P.I. and has a zero cold test. It is sold largely in Standard of Indiana territory. The gas oil is marketed locally to a large extent.

Although the plant was designed to run on tops, it is flexible as is shown by the fact that it is now running, or was a few weeks ago, on crude oil. There was a fire at the Bluebonnet plant which made it impossible for some time for the refinery to deliver the light fractions so the Wickett plant went on crude to keep up its shipments.

O. H. Berryman is manager of the plant of the Wickett Refining Co.

The other West Texas plant of the Hassett interests, at San Angelo, is what might be called a local refinery. All its products are marketed

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near home and mostly by tank truck.

The San Angelo refinery consists essentially of a pipe still with a bubble tower and two shell stills. It has no cracking plant. It operates on two grades of crude, one from the McCamey field of about 29-30° A.P.I. gravity and a 34-36 gravity crude from Pecos county. The former is a typical West Texas crude while the latter differs from the ordinary Pecos county crude, resembling Mid-Continent oil.

Both crudes are brought to the refinery in tank cars. The capacity of the plant is rated at 1500 barrels a day but it is now running only 700 to 800 barrels a day. George Buckner is plant manager.

The products made are gasoline, kerosene, gas oil and fuel oil. Practically no gasoline is shipped in tank cars. Trucks distribute the entire output. It is all marketed within a radius of about 50 miles from the refinery, partly through stations owned by the Imperial Refineries and partly through controlled or Independent stations.

C. M. Alexander

The fuel oil is all sold in San Angelo and the gas oil is sold either in that town or nearby.

Experience gained by Mr. Alexander in years of working with all kinds of crudes went into the development of operating schedules for these two small plants in West Texas. Knowing that the crude had a high content of hydrogen sulfide, he holds down the temperatures under which operations are carried on.

He says the equipment shows no important signs of corrosion although the San Angelo plant has been running two years. All operations are carried on at temperatures at below 500 F. which is about the critical temperature at which sulfur corrosion usually begins. No salt water has shown up as yet in the crude on which the plant runs.

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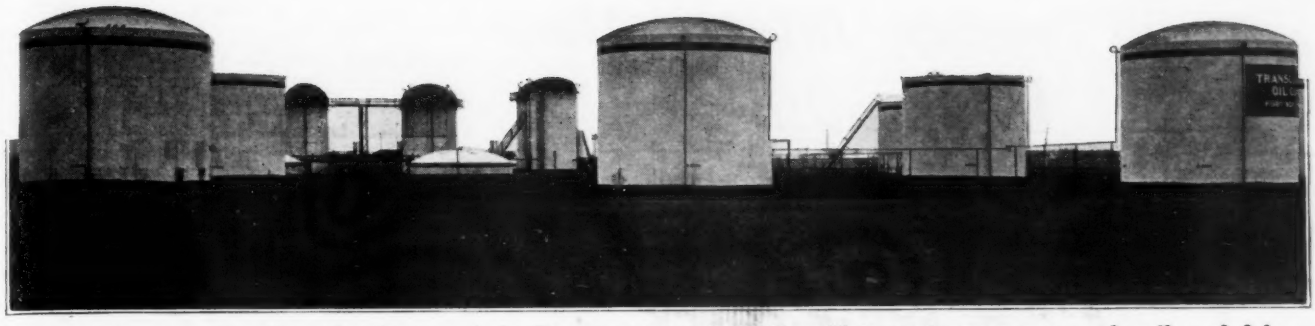


Some of the storage tanks and agitators of the Transcontinental Oil Co. Note neat appearance and well seeded lawn

Skimming, Cracking and Lube Making From Ranger Paraffin Crude

By Paul Truesdell, N. P. N. Staff Writer

Article 1

THE refinery of the Transcontinental Oil Co. at Fort Worth is a good advertisement for Marathon motor oil and the other Transcontinental products.

Gleaming of silvery storage tanks in the bright North Texas sunshine is the first sight that greets one as he approaches the refinery along the road. All the tanks are coated with aluminum paint.

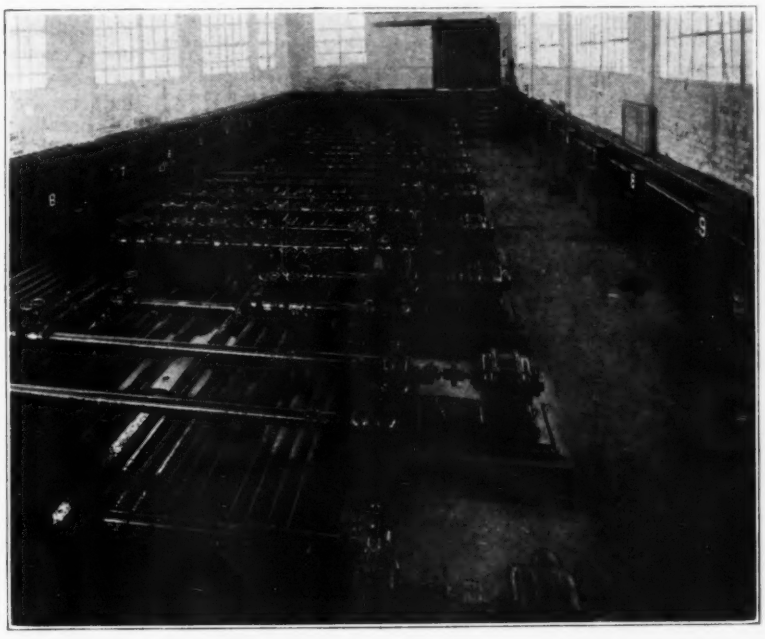
A closer view shows that the tanks are also set off with a neat green trim, green being a company color. It is also seen that each of the larger tanks is an advertising billboard as well as a storage tank. Each of these carries a gigantic figure in green of the Marathon runner, featured for years in the company's national advertising, and the slogan, "Best in the long run."

Nearing the plant, a group of substantial and sightly brick buildings is seen. The roofs of the buildings are of galvanized sheet steel and they also are bright. Some are painted and these are in gay colors. The paint looks fresh. A general impression of order and neatness strikes the eye. Nothing seems to be out of place. Nothing is lying around.

Perhaps the care devoted to good housekeeping explains why the plant has never had a serious fire since the Transcontinental has operated it.

The plant might be called a war baby grown up. It is built on the site of the old Inland Refining Co. skimming plant, a Cosden enterprise that flourished during the war period and later was shut down for years. The Transcontinental took it over in 1918. There is little if any of the original equipment now left.

Instead it is now a complete refinery in that it possesses skimming and cracking equipment and a well rounded lubricating oil plant.



Main pump house of Transcontinental refinery, showing centrifugal pumps direct connected to individual motors. Controls along wall at right

The refinery has a crude charging capacity of 5000 barrels a day but is now running about 4000 barrels. It operates exclusively on Ranger crude delivered by a pipe line 125 miles long which reaches the Ranger and Desdemona fields. The pipe line is owned by the United Producers Pipe Line Co., a Transcontinental subsidiary.

Two grades of gasoline are made at the plant, U. S. Motor and Multipower, a special brand sold at a premium. The other products are kerosene, neutral oils, steam refined cylinder stocks, bright stocks, a complete line of finished motor oils and 124 A.m.p. wax. An extensive line of industrial oils also is manufactured.

A considerable part of the gasoline made is retailed through company pumps in Fort Worth and vicinity and much is shipped in tank cars to resellers in the southern and southeastern states where the freight rate is favorable. The kerosene is marketed in tank cars in the same territory.

Motor oils are sold in tank cars to the trade and are also put up in steel barrels and cans for sale

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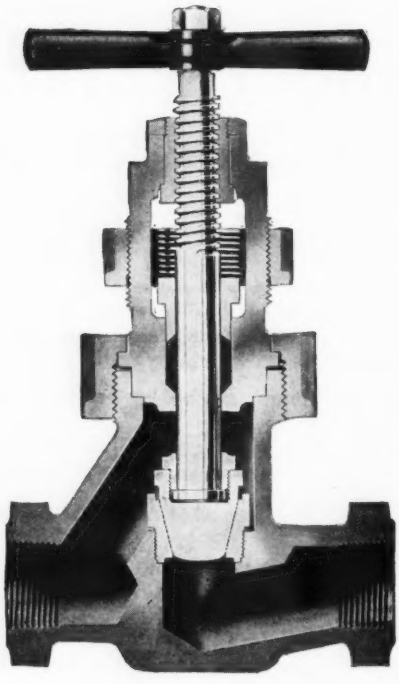

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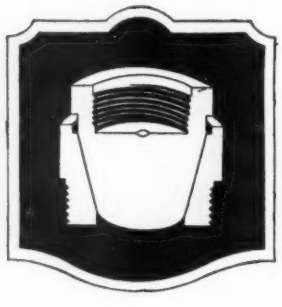

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under the Marathon trade mark. Industrial lubricants are sold in steel barrels and tank cars. Gas oil is mostly cracked in the plant but any excess, as well as residual fuel oil when there is any for sale, is marketed mostly in nearby Texas towns for enriching manufactured gas and as fuel in central power stations.

This refinery is one of three owned by the company. The other two are at Bristow and Boynton, Okla. The Bristow plant has a capacity of about 6000 barrels a day of crude. It is a skimming and cracking plant only and operates on crude from nearby fields.

The Boynton refinery is modeled almost exactly on the Fort Worth plant except it is only half as large—2500 barrels of crude a day. It operates on Boynton crude, said to have excellent properties for the manufacture of lubricating oils.

Headquarters of the Transcontinental Oil Co. is in Tulsa. F. B. Parriott is president; J. C. Adams, vice president; M. W. Bottomfield, vice president; J. M. Holliday, vice president; L. B. McCammon, vice president; and E. D. Robinson, secretary and treasurer.

A. J. Slagter is general superintendent of refineries and Dr. Sidney Born is assistant general superintendent. W. R. Sonricker is superintendent of the Fort Worth plant. Handling paraffin base crude is no new thing to Mr. Sonricker. He was formerly a Pennsylvania refiner. Nine years ago he was superintendent of the Valvoline refinery at Butler, Pa.

The Fort Worth refinery has a normal operating force of about 125 men. Resident officials, foremen and so forth are housed in comfortable company cottages on the refinery property.

In addition to precautions to keep down fire hazards, a trip about the plant discloses that much thought has been expended in making the plant safe for workmen. Stairways and ladders are pitched on as easy grades as possible and provided with good handrails. Non-slip type of treads are used. Railings are provided wherever men might fall off the edges of platforms and so forth. Moving machinery is provided with safety guards.

The refinery is well supplied with soft water from deep wells of its own which are flowed by means of compressed air. The water for general purposes is cooled sufficiently in a spray pond but there is a cooling tower to give added reduction in temperature to the water used in the wax plant.

The boiler plant consists of four 150-horsepower horizontal return tubular boilers and two 250-horsepower Ladd water tube boilers with Swartout feed water heater. Treating of the feed water at this plant is unnecessary.

The main pump house is equipped with 12 Goulds centrifugal pumps, di-

rect connected to individual 10 horsepower electric motors. The floor of the pump house is sunk 10 or 12 feet below the grade of the refinery yard in order to give the pumps flooded suction.

Because of compiaints of adjoining property owners that water contaminated with oil has been flowing from the refinery property onto their land, the Transcontinental is just now completing an elaborate sewer system to do away with this trouble. The system is designed to collect the surface water in the refinery yard and deliver it into the Trinity river free of oil. Texas laws are very strict against polluting of streams with oil. The oil is to be removed from the drainage water by means of a system of traps and skimming basins.

The plant has many interesting features which will be discussed in two later articles. Pennsylvania refiners doubtless will find particular interest in them because of the fact that this plant handles a crude similar to their own.

The next article wilil discuss the straight distillation and cracking departments of the refinery and the third will describe the steps used in the manufacturing of lubricating oils.

Also, the method used at this plant for disposing of the heavy sludge resulting from the treatment of cylinder stocks with sulfuric acid will be discussed. Contrary to the practice in the Pennsylvania refineries, all the lubricating oils made from Ranger crude are acid treated.

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"Edington Gasoline & Refining Co." No. 263,463. Edington Gasoline & Refining Co., Los Angeles. For gasoline, kerosene, distillate, fuel oil, and lubricants.

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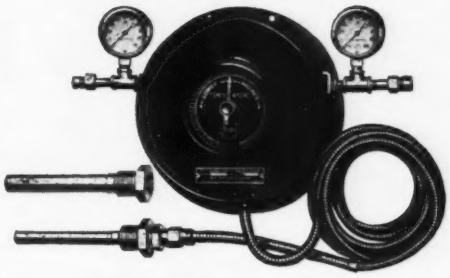

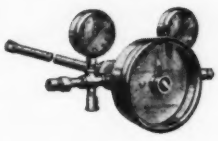

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Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

"WE HAVE no secrets, we have nothing to hide." Those words from the lips of a Standard Oil Refinery executive are, to say the least, unusual.

But those are exactly the words used by J. S. Harrison, vice president of the Standard Oil Co. of Ohio in greeting members of the National Petroleum Association who were guests of the Standard on May 24. Actions speak louder than words and his actions showed that he meant what he said.

Operations of the company's two Cleveland plants were explained in detail to the visitors. Then they were taken over the plants themselves, shown anything and everything they wished to see. All questions they asked were frankly answered, even to yield and cost figures, cost of equipment and such matters that many refiners dislike to talk about.

Hearty thanks of the visitors were extended to their hosts as the party broke up and we think the thanks of the entire industry are due to the Standard officers and directors who have discarded the old policy of shrouding all their operations in secrecy.

Nothing can go further to cement the refining industry and the entire oil industry into a united whole than actions like that of the Standard of Ohio.

Those who visited the refineries benefited by the trip, if in no other way than in the good feeling caused by their reception. The Standard benefited by the same good will and will benefit as time goes on, while it did not lose, by showing the plants to the eastern refiners, a single advantage it enjoyed before in making and selling its products.

Other big refining companies have received and entertained members of the National Petroleum Association with equal frankness, but this is the first time so far as I know that a Standard company has adopted so free and open an attitude.

It seems likely that, if the oil industry as a whole is ever to accomplish any important results cooperatively, it must be on a basis of complete frankness.

* * *

COMMANDER Edward Ellsberg, U. S. N., who accomplished the feat of raising the sunken submarine S-4 and described the operations in thrilling narrative, has been appointed chief engineer of the Tide Water Oil Co., it was announced this week. Commander Ellsberg is in charge of the general engineering department and also bears the title of engineering assistant to the vice president in charge of manufacturing.

R. D. Rogers has been appointed general manager of the Bayonne refinery and is succeeded as general superintendent of the plant by James J. McGrath, who was his assistant.

* * *

JOHN H. KANE, executive vice president of the Phillips Petroleum Co. announces that a crude still and a cracking unit are being installed at the Borger, Tex., plant of the company, which should be in operation about June 1. The new equipment will give the refinery a crude capacity of 10,000 barrels a day and the cracking plant is expected to produce about 1200 barrels a day of cracked gasoline.

CHANGES in the manufacturing department of the Vacuum Oil Co. are announced in the May issue of Vacuum Oil News. H. F. Abrams has been appointed chairman of the manufacturing committee and will continue as New York manager of the Olean and Rochester works and will also have supervision over the control laboratories located at the various plants.

The "New Jersey division" will comprise the Paulsboro and Bayonne works and, upon the retirement of M. S. Simpson in September, will be under C. B. Van Leuven as general manager. Mr. Van Leuven on May 1 became general manager of the Bayonne refinery. He was in charge of construction of both the Paulsboro and the Bayonne plants and is now engaged in supervision of important construction work, it is stated.

R. B. Conway becomes assistant manager of the New Jersey division; B. W. Dudley is in charge of a newly created light products and research division; E. D. Seymour remains as head of the engineering department; George Hopper becomes general assistant to Mr. Abrams; Dr. H. C. Goetz, in charge of manufacturing in the German refineries of the company, is made a member of the manufacturing committee. E. H. Wright, manager of the Olean plant, is also a member.

* * *

LOTS of construction work is reported at the refinery of the Champlin Refining Co. at Enid, Okla., in the May issue of Field Flashes, the house magazine of that company. The construction department is busy installing fractionating towers on more of the crude stills, and new tanks for the storage of lubricating oils are going up.

All records for shipments from the refinery were broken in April, which surpassed the previous record, set the month before, for products shipped, according to Field Flashes.

* * *

CRACKING stills are producing more gasoline every week, to judge by the reports made to NATIONAL PETROLEUM NEWS weekly by Mid-Continent refiners. Probably the same condition prevails more or less everywhere.

Many refiners figure it is well worth while to crack, from a qualitative if not from a quantitative standpoint. Refiners who sell Ethyl gasoline, particularly, are able to make more money on their Ethyl gas if they turn out a product from their stills that requires only a little Ethyl fluid to bring up to standard.

For instance, if a refiner produces a gasoline that requires only ¾ of a cubic centimeter to the gallon (the minimum allowed by the Ethyl Gasoline Corp.) and he sells it at 3 cents a gallon premium, that represents more profit than he would get if he produced a gasoline requiring more Ethyl fluid per gallon, if his refining costs are about the same.

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Standard Oil Co. of N. J.
General Petroleum Corp.
Beacon Oil Company
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Independent Refining Co.
Richfield Oil Co.
The Texas Co.
Sinclair Refining Co.

COMPANY

LOS ANGELES **BOSTON**

Lessons Learned From Recent Fires and Explosions at Gasoline Plants

By Emby Kaye*

(Presented before Eighth Annual Convention, Natural Gasoline Association of America, Tulsa, May 21-23)

THE Natural Gasoline Industry has made no uncertain progress during the last decade. It has increased the efficiency of its extraction processes, improved the quality of its products, and has reduced its manufacturing costs to an extent that has enabled it to exist in the face of radical changes in the price structure of light petroleum products.

Not a little of this progress and reduction in costs is due to the relatively low fire and explosion experience in an industry, by common consent, considered to be loaded with extraordinary hazards. The plant designer recognizes the imminency of fires and explosions, and, as a result, not only surrounds his equipment with safeguards against these dangers, but, as well, chooses and locates the equipment with a view to reducing to a minimum such risks as must necessarily remain by the very nature of the business.

In spite of improvement in plant design, looking to the removal of some of the inherent risks in our industry, we have, nevertheless, a record of fires and explosions that have taken some lives and a considerable toll of property. While, no doubt, from all of them, some of us have taken a lesson, your program committee considered that it would be for the good of the industry if some of these cases were discussed here in an open meeting.

The dissemination of this information, the throwing of light upon the causes of these accidents, will accomplish a worth while object if we will each look into our plants, there to eradicate, if we will, such conditions as obtained in the situations hereafter discussed, both in this paper and in the discussion to follow—conditions which led to the disastrous results recited.

Let us revert, first, to the case of an explosion several years ago at a gasoline plant in the Tonkawa field. This was an oil absorption plant powered with a ten-engine compressor unit. One unit was employed as a recompressor and was equipped with high and low stage cylinders for recycling make tank and storage vapors.

There were two headers in front of the battery of stock tanks which were manifolded with each tank and controlled by three valves cutting out each header separately, and also the stock tanks. Ordinary crane valves of 125 pounds' pressure and with the wheel handle, were being used.

An operator at this plant began transferring gasoline from the make tanks to a storage tank at 7:00 A.M. A half hour later he began transferring gasoline from another storage tank to the loading rack line. Through error, the operator left a valve open from the loading line to the stock tank into which he was transferring from the make tanks.

This caused the gasoline in the stock tank to overflow through the 2-inch vent into a 4-inch header, thereby filling the vapor scrubber tank, whence it entered the low pressure accumulator, from which it was carried over into the high side of the recompressor. In this cylinder the valve area is small and the piston travel about 400 feet per minute with about 1/32-inch clearance. Liquids are not compressible and when the liquid reached here and did not compress, something had to give.

The discharge valve gave way, ruptured the wall, and took part of the cylinder casting with it. The liquid then sprayed into the engine room and filled it with gas, which exploded about 30 seconds after the rupture occurred. The result was the loss of three lives and the severe burning of four others, also the complete destruction of the main engine room.

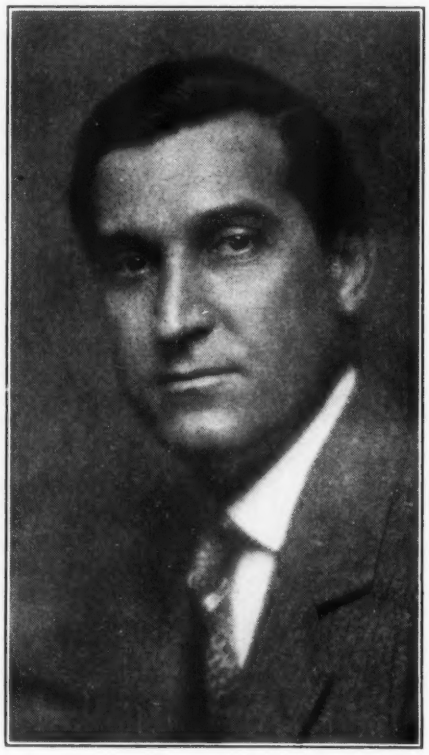
The company reporting this explosion advised that its precautions against a recurrence consisted, first, of replacing the ordinary brass gates on the manifold with rising stem valves, which will show at a glance any valve that might be open, and, second, more rigid inspection when starting to transfer, since this accident could have been avoided had the gauge glasses on the stock tanks and the low pressure accumulator been more carefully watched.

I should add a third precaution. It is always a good idea to have master scrubber tanks ahead of compressors, equipped with some sort of liquid level control, but even so, eternal vigilance cannot be dispensed with.

An instance of an explosion resulting from an air and gas mixture in a plant using gas for lift or repressuring work, is the following:

This was a ten-unit plant using gas for lift purposes, and, on this occasion, one unit had been down for repair. At the time repair was started, the intake line was closed ahead of the scrubber tank and the discharge line closed near the discharge header, with a 2-inch relief line left open. Through neglect on the part of someone, the 2-inch blow off at the intake scrubber was left open (both the operator and mechanics deny opening this).

When the equipment was again started, it was presumably operating on field gas and discharging through the relief lines until the equipment was purged of air. Then the relief line was closed and the machine was allowed to build up to the approximate header pressure. At



H. W. Dodge

General Sales Manager of The Texas Co., New York, a newly created position. Mr. Dodge was formerly in charge of sales in the northern half of the United States. Now he will engineer the company's marketing activities for the entire country

*Skelly Oil Co.

this time it was turned into the discharge header and a violent explosion occurred, which ruptured the lines between the header and the high pressure cylinder of the machine, tore out the floor and part of the building, and injured one man seriously.

Investigation disclosed that the machine had been building up pressure on air due to the 2-inch blow off line being open in the bottom of the intake scrubber. There were several explosions of this same general character this year.

TO PREVENT a recurrence of this kind, operators have been instructed to make sure all intake air connections are closed and the intake gas valve cracked, to allow the machines and lines to be purged with gas, throughout, before starting to build up pressure.

On October 24, 1928, a company in the Seminole district experienced an explosion in an air-lift station employing eight 11 x 5 x 12 compressors and four 4¾ x 11 compressors, driven by 125 horsepower gas engines. The explosion totally wrecked the discharge headers made of 3-inch tubing of 2500 pounds test, together with all of the fittings connected on each end, but left the center intact.

It also ruptured the discharge chambers on the high compression cylinders on nine of the twelve units and the discharge lines leading from the high cylinders to the headers. The seven lines leading from the discharge headers were also ruptured in two places, some fifty feet apart, and a hundred yards distant from the plant. Much sheet iron was blown from the building and the windows were all shattered. One man was killed and one seriously injured, while five others required medical attention.

In spite of a thorough investigation, it seems that no satisfactory explanation for the cause of this explosion could be found, other than the probable accumulation of lubricating oil from the compressor cylinders in the discharge lines which ignited from the high temperatures resulting from high compression of air.

To remedy this situation, the plant has since been using soap solution to lubricate the high compression cylinders, after it was determined that, by the reduction of this soap solution with intense heat, no explosive gases were produced.

On the morning of November 23, 1928, one company suffered an explosion in a booster station located in the Seminole field, caused by an excess of gas leaking into the compressor building, which, at that time was poorly ventilated because the windows and doors were closed. Presumably, the gas leaks came from around stuffing boxes on piston rods and probably from gate valve stems.

An investigator talked with some of the operators who were running tour on this plant and it was their view that the explosion was due to the ignition of the gas by static electricity. It is believed that previous to the explosion, the operator on tour had removed some of the valves in the compressor, and this condition was found after the explosion when the gas was still leaking through the compressor where the valves had been removed even though the incoming gas had been shut off.

This booster station was operated by electric motors and it was also noted that the compensators had badly burned contact points and they were *above* the oil level. It was understood by some of the operators that on starting these motors, the compensators had a habit of sparking and flashing considerably due to the starting load, and, in all probability, the contacts were not submerged in oil. It is more than probable that the so-called static electricity was really a spark from the unsubmerged contact points.

It would appear that the design of the plant and equipment took into consideration the danger of ignition of gases in the compressor room and provided safety switches with contacts submerged in oil. This explosion might be an example of lack of watchfulness on the part of the operators.

On December 7, 1928, one company had an explosion in a Seminole field booster station, when high pressure on a third stage unit was by-passed into the intermediate stage (second stage unit) which bulged the accumulator tank bottom and caused all connections to be broken off, which in turn caused damage to the plant and surrounding buildings.

THE engineer became excited at the high pressure, by-passed same, and released about one mile of 6-inch line with high pressure in it into the intermediate compressor, which equipment is constructed for 300 pounds working pressure. The relief valve did not have the capacity to take care of the volume in the 6-inch line and something had to give.

Late in 1928, one company at Wewoka had a serious explosion in a gasoline plant-gas booster station, resulting in loss of life and property. The reporting company stated that it did not know definitely the cause of the accident, but it further remarked that it was possible that fittings installed for high pressure had among them some standard fittings which were difficult to distinguish from high pressure fittings.

That company instituted an investigation in all its plants to check all high pressure cylinders, together with

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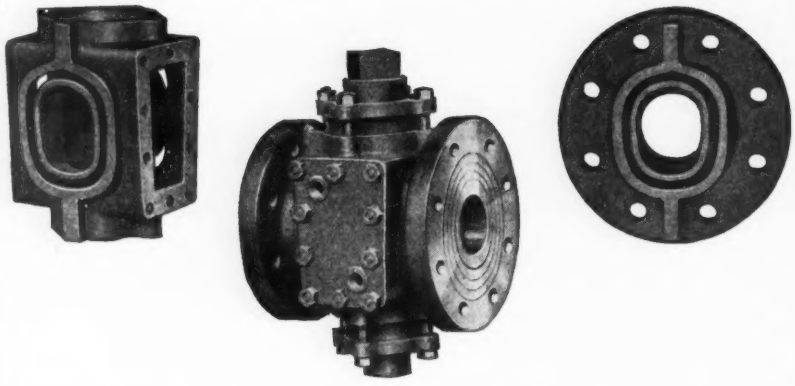

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lines and connections on these units, to make certain that all these lines and by-passes to and through which high pressure could come into by error or through leakage, were properly equipped with relief valves or fittings of sufficient tested pressure to withstand the service.

Our own investigation revealed that in any number of lift stations and plants, by-passes for emergency purposes were equipped with low pressure fittings because it was intended to flow gas from the low to the high side, but apparently no thought was given to the possibility of opening valves by mistake or of leakage by the high pressure shut-off valve on the by-pass, back into the low side, backing up ultimately a high pressure that would cause the bursting of the low pressure fittings, an eventuality fraught with many dangerous possibilities.

THE absence or failure of check valves on air starting lines has resulted in a number of explosions. Gas has been found to leak by automatic air starters and sometimes the filling or failure of a drip behind the air compressor has permitted gas or oil vapors to be compressed and ignited by the heat of compression, or by the back-firing of an engine.

A number of fires are on record, caused by the ignition of tank and loading rack vapors. Nothing new can be added to the story of safe handling of natural gasoline in a yard or at a loading rack. To do so would be to expatiate upon the obvious. Suffice it to say, it should always be done "tight," under pressure, and such vapors as are not retained should be conducted to a safe place and burned.

In this same class of cases come those where gasoline or gasoline vapors gravitated to the boiler house or engine room where they were ignited. It is a first principle with most companies to locate storage tanks in low places so that tank ruptures and burning gasoline would not be apt to endanger the balance of the plant.

It is obvious that the complete record of recent fires and explosions in our industry would look too much like a fire insurance agent's diary, to be given completely or in detail. An attempt has been made to touch upon the more important cases, to illustrate a class of accidents, and to indicate the probable cause. It is for the discussion to follow to bring out other and possibly more accurate pictures of the explosions mentioned, and others not here listed.

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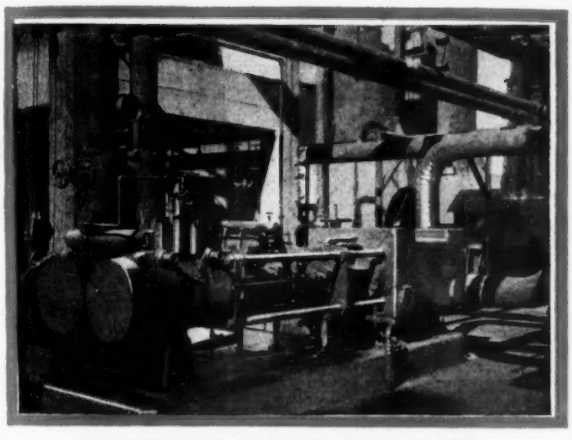
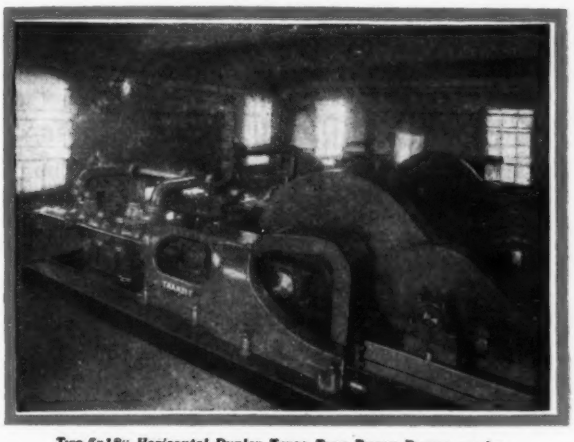


Illustrating one of two 14x8x24" Horizontal Duplex Hot Oil Pumps with forged steel fluid end, for 800 lbs. pressure.



Two 8x18" Horizontal Duplex Texas Type Power Pumps, used as charging pumps by the Utah Oil Refining Co., capacity 176 gallons per minute against 1000 pounds working pressure.

The progressiveness of the West is well exemplified in the Utah Oil Refining Co., located at Salt Lake City.

Starting in 1909 with but a small refinery, their growth has been consistent until now they operate the largest refinery in the State, with a 4500-bbl. wax and a 9000-bbl. cracking plant.

The recognized high quality of their products is due in a large measure, no doubt, to a very efficient and up-to-date refinery, but we believe that much credit is also due the personnel, with Mr. E. S. Holt, as refinery superintendent.

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Present Natural Gasoline Storage Insufficient for Needs

By H. C. Charles*

(Presented before Natural Gasoline Association of America, Tulsa, May 21-23)

AS THERE are no figures available on total natural gasoline storage capacity, the following discussion is based on natural gasoline statistics as reported by the Bureau of Mines. Also, a few suggestions are offered relative to a storage program and the outlook for the natural gasoline industry.

The accompanying chart shows production, shipments and periods in which stocks in the United States were increased or decreased; also, the average price for Grade "AA" natural gasoline in the Oklahoma market.

In 1928, production of natural gasoline increased 9.1 per cent over 1927, while during the three previous years, production increased over 20 per cent above the preceding year. During the first three months of 1929, production increased 18 per cent over the same period of 1928.

This large increase for the three months of this year is due to the fact that at the beginning of 1928, production was low and increased gradually during the entire year. If we compare the percentage increase in production for the first three months of this year over the last three months of last year, we find that the increase has amounted to only 5.3 per cent. This, however, is a large increase for this period of the year since demand was at its lowest point during this time. The average price for Grade "AA" natural gasoline, however, has held up remarkably well during this period, although there was a large decrease from September of last year to the end of January of this year.

Total consumption of all gasoline in the United States has increased 13.8 per cent for the 3 months period of this year over the same period of 1928. This is an abnormally large increase in consumption of gasoline and it is not expected that this rate will continue throughout the year, but it seems very probable that we shall have an increase of over 10 per cent in consumption of gasoline in 1929 over 1928.

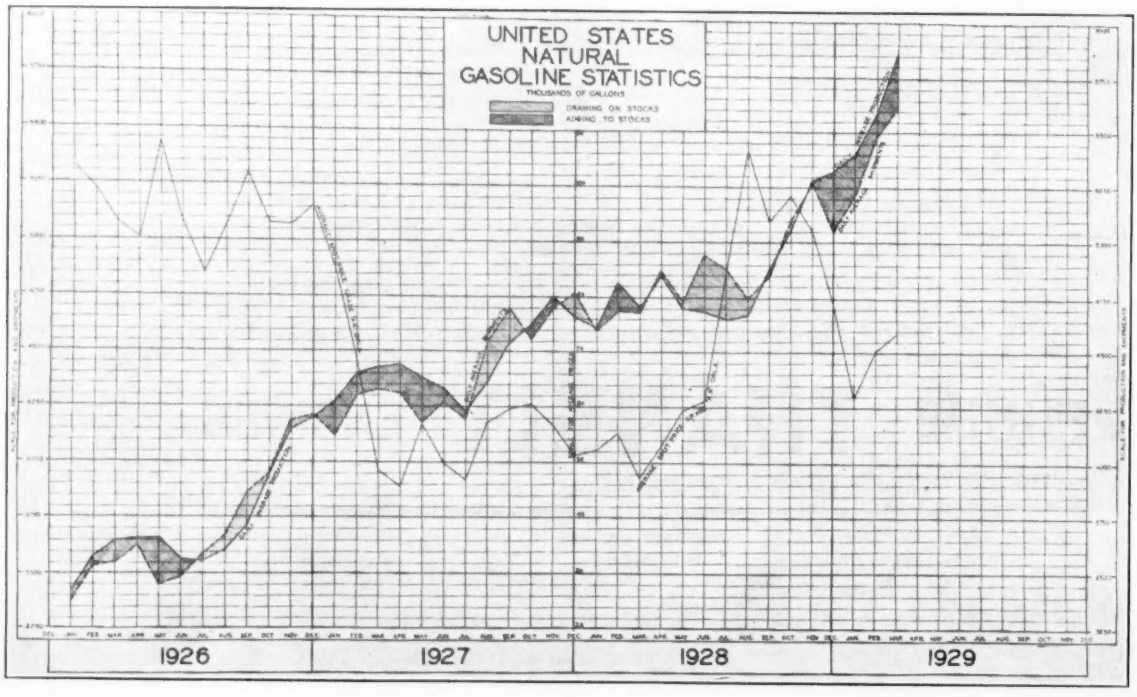
Natural gasoline used by refineries during the first three months of 1929 increased 19.4 per cent over the same period of last year. This may also be an abnormally large increase in the use of natural gasoline at refineries, but we may expect considerable improvement in demand for 1929 over 1928.

*Economist, Phillips Petroleum Co.

The largest part of the increase so far this year has occurred on the East coast and Texas and Louisiana Gulf coasts, and also in California, while Mid-Continent and Indiana-Illinois refineries have used nearly 6 per cent less. Shipments of refinery gasoline in the Mid-Continent area have not increased at as fast a rate as shipments for the whole country, and it is probable that the reduction in the use of natural gasoline at refineries in this area will show considerable improvements in the next few months when weather conditions are better and demand for refinery gasoline picks up.

NATURAL gasoline demand is entirely dependent upon requirements of refineries and the seasonal consumption should vary as much or probably even more than consumption for motor fuel in the United States. This is because refineries build up large stocks of refinery gasoline in the winter and spring, which are later reduced when consumption is at its peak.

Since stocks of refinery gasoline contain little if any natural gasoline, it appears that natural gasoline manufacturers should prepare for this period of largest consumption. At the



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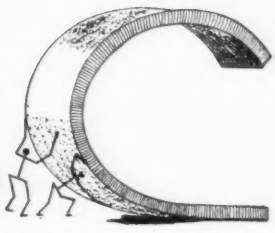

Punch

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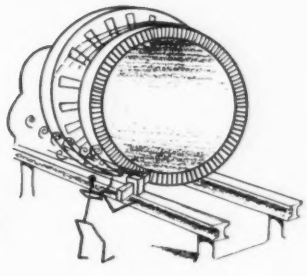
Turn

88" DIAMETER



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end of March, refinery gasoline stocks were equivalent to 44 days supply, while natural gasoline stocks at plants were equal to 7.5 days supply. Of course, it would not be necessary for natural gasoline manufacturers to accumulate anything near the number of days supply in storage that is carried by refineries, but if every plant in the country would double its storage facilities, there should be ample room to absorb the overproduction during the necessary periods.

As stocks of natural gasoline at plants reached a new peak at the end of March this year, no doubt, it might appear that stocks are already burdensome, but when it is considered that only 7½ days supply is on hand, it does not seem that they are excessive.

AN ENCOURAGING feature concerning stocks at the end of March, as reported by the Bureau of Mines, was the fact that one of the largest producing companies included its highly stabilized gasoline in its report. This represents approximately 50 per cent of all that company's storage of natural gasoline. This gasoline, then will not necessarily come on the natural gasoline market as the greater part of it will go directly to aviation and premium motor fuels.

At the end of March, 1929, natural gasoline stocks in the United States amounted to 41,800,000 gallons, of which approximately 25 per cent is stabilized gasoline that should not affect the natural gasoline market. This, then, leaves about 5½ days supply of natural gasoline in storage. On Dec. 31, 1928, natural gasoline stocks amounted to 25,500,000 gallons which compared to 30,800,000 gallons on hand at the end of December, 1927.

Although stocks were reduced 5,300,000 gallons in 1928, the average price for Grade "AA" natural gasoline in the Oklahoma market was 0.62 cents below the average price for U. S. Motor gasoline. It would appear, then, that natural gasoline production was not sufficient to meet the current demand during 1928, but still the average price for natural being under the average price for refinery gasoline, clearly shows that the natural gasoline industry should not expect to receive from 1 cent to 2 cents per gallon more than the average selling price of U. S. Motor gasoline.

During 1928, in March, the price for Grade "AA" was 4.73 cents per gallon, while in July, this price had advanced until 10.66 cents per gallon was being received. This is a fluctuation of nearly 6 cents per gallon in a period of six months. During this same time, the average price for U. S. Motor gasoline was advancing from only 6.31 cents to 9.66 cents per gallon, or a variation of slightly over 3 cents per gallon.

The runaway market in natural gasoline, no doubt, was caused by inability of natural gasoline manufacturers to supply refiners with the necessary amount of their product during the period of highest consumption. An aggressive storage program should have been carried out in the first part of the year when the average price for natural gasoline was hovering around 5 cents per gallon, and in this manner, a large quantity would have been taken off the market, at least temporarily.

IT IS estimated that from 80 per cent to 90 per cent of all natural gasoline in the Mid-Continent area is sold on contract, and the other 10 per cent to 20 per cent that is available naturally has a big effect on the spot market. The solution of the large fluctuation in natural gasoline market is for plant operators to provide ample storage to take care of the overproduction which only occurs during periods of lowest consumption.

When the average price for natural gasoline is very much above the average price of U. S. Motor, refineries use only a minimum amount and in this manner the demand is automatically reduced. Also, when prices are too high, large numbers of small plants are built that increase the supply of natural gasoline.

The only way that natural gasoline manufacturers have to stabilize prices is by controlling the outlet to market requirements. This cannot be successfully accomplished by only a few companies, but should be a cooperative movement by the entire natural gasoline industry.

In trying to analyze the natural gasoline situation for the remainder of this year, relative to supply and demand, it is believed that by the time the period of highest consumption for motor fuel is here that demand for natural gasoline will be considerably improved.

THE best method we have for estimating consumption and probable trend in price of natural gasoline is based upon estimates of total consumption for all gasoline. Past experience has taught that we can make very good estimates on total demand for motor fuel, which, although it may not be absolutely correct from month to month, over a longer period will be nearly correct.

In 1926, natural gasoline compared to the total consumption of refinery gasoline amounted to 10.58 per cent, while average prices for the entire year showed that Grade "AA" natural gasoline was 0.87 cents under that of U. S. Motor gasoline in the Oklahoma market. In 1927, this percentage relationship amounted to 11.31 per cent, and the average price for Grade "AA" was 1.14 cents under the average price for U. S. Motor gasoline.

In 1928, the percentage was 11.09, while the average price of Grade

A night view of Scullys service station at San Francisco. The photograph was sent to NATIONAL PETROLEUM NEWS *by S. F. Bowser & Co., Fort Wayne*

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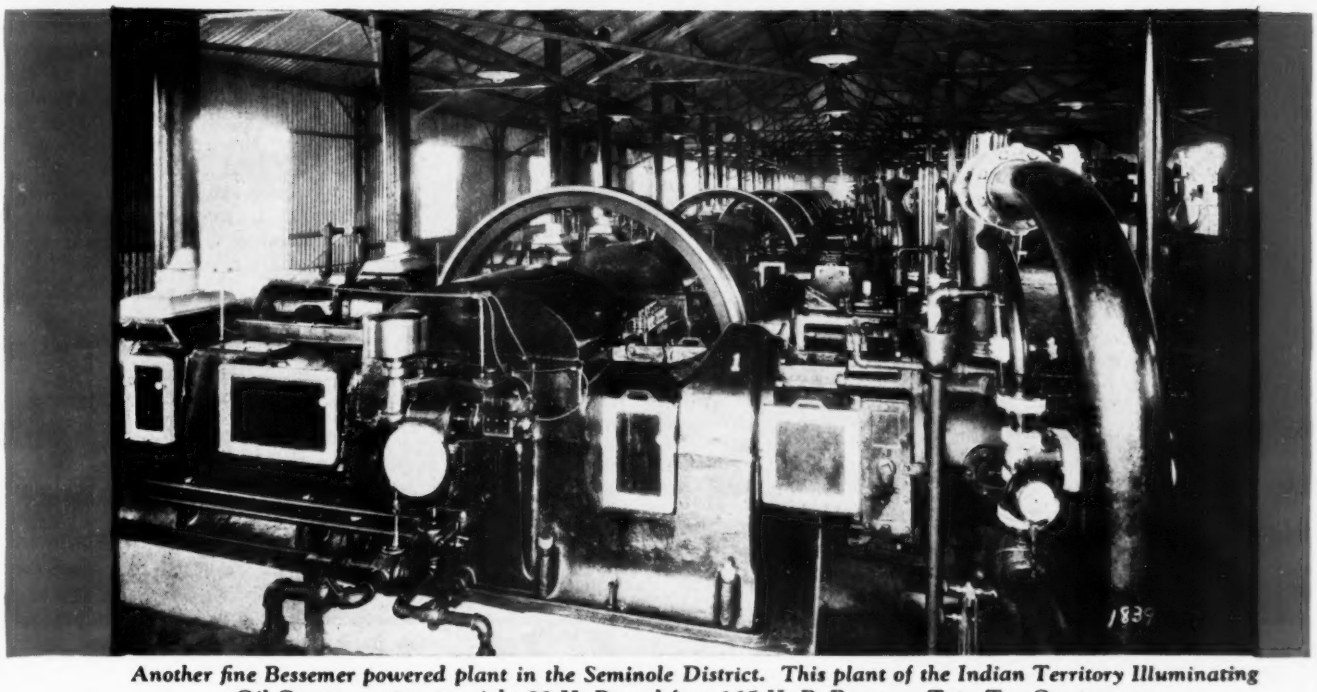

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"AA" was only 0.62 cents under the average price of U. S. Motor gasoline. During July and August of last year, this comparison showed that the percentage was the lowest of any time during the year and amounted to 9.1 per cent. It was also during these months that the average price for Grade "AA" was above the average for U. S. Motor fuel.

If we have a 10 per cent increase in consumption of all gasoline in the United States in July and August of this year over the same two months of last year, the March rate of natural gasoline production will be equal to only 10 per cent of total consumption of all motor fuel.

California is the only state which is likely to increase natural gasoline production between now and July, while there will be a considerable decrease in production on the East coast due to the fact that plants in that district are operating along the main gas trunk lines and production there always decreases from 150,000 to 200,000 gallons daily from the winter to summer months.

Natural gasoline production in the Mid-Continent area is expected to hold about stationary. Although there will be some decline in present producing fields, new situations will be developed to take care of this decline. On the other hand, if California is successful in curtailing crude oil production to the contemplated figure of 650,000 barrels daily, there will not be much increase in natural gasoline production in that state.

In assuming, then, that total demand for all gasoline will show at least a 10 per cent increase over last year, and allowing for a percentage relationship in natural gasoline production of 10.5 per cent to 11 per cent, it will be necessary to produce over 6,000,000 gallons of natural gasoline daily during the summer months.

THIS, of course, might be accomplished if there is no curtailment in California, but at the present time, it appears that operators there are going to continue with the proration program as contemplated. This indicates that production of natural gasoline will not amount to 6,000,000 gallons daily and that there should be plenty of time to reduce storage at fair prices.

Bureau of Mines figures for March were not available until the first week in May. I would suggest that the Natural Gasoline Association endeavor to collect production, shipments and stocks by wire from the different companies at the end of every week and release these figures as quickly as possible after the first of the following week. If this were done, we would be able to analyze the natural gasoline situation with respect to supply and demand immediately.

It is impossible to have any one company try to collect statistics as other companies are not willing to give out their information to competitors, but if the Natural Gasoline Association would provide forms to be filled out each week, I believe every company would cooperate and in this manner would be posted on up-to-date activities of the natural gasoline industry at all times.

In conclusion, I do not believe that storage facilities are adequate. The natural gasoline manufacturer should increase his storage capacity so that average prices for natural gasoline would be stabilized and held to approximately the average price of U. S. Motor fuel. If this were done, refiners would then know what to expect, and a maximum amount of natural gasoline would be used at all times.

European Representative Of Texas Co. Retires

BRUSSELS, May 29.—Charles Haswell Parker, who has been European representative at Brussels, Belgium, with The Texas Co., is retiring June 1 to devote his time to personal affairs and to his family.

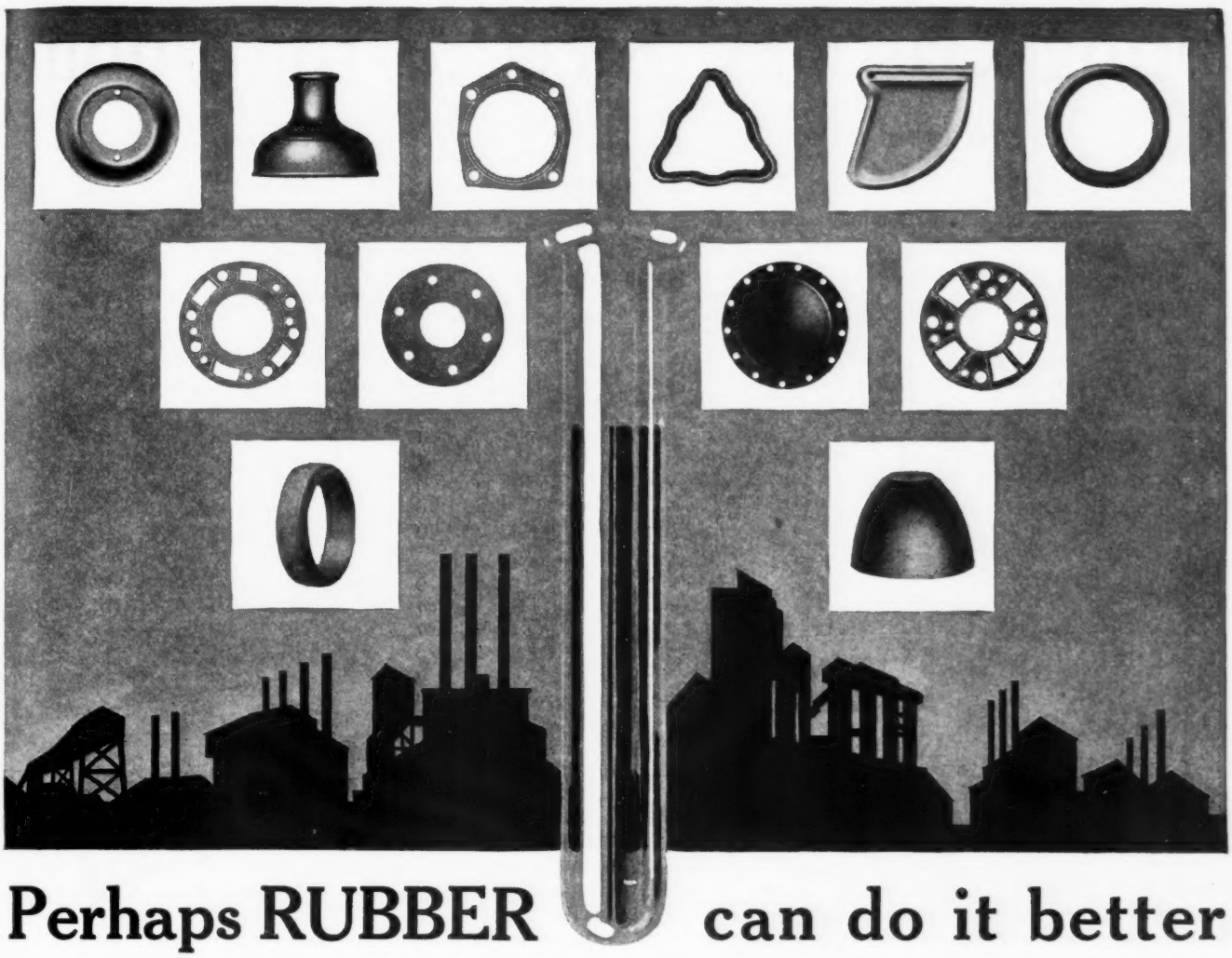
Mr. Parker has been with The Texas Co. for 18 years, having joined it in April, 1911, as assistant in the lubricating division, northern territory. In 1916 he was put in charge of lubricating sales as assistant to the general manager.

After nine years in that position he became the company's representative at Paris, after which he was appointed European representative.

Mr. Parker's first oil experience was gained with the Vacuum Oil Co., at Boston, which he joined in November, 1899. With William F. Parish he organized and developed that company's technical department.

Four years later he was appointed district manager for the Vacuum Oil Co., Ltd., of England, and later became chief of the technical department with headquarters at New York, which position he held until 1911, when he went with The Texas Co.

Combustion Engineering Corp., 200 Madison Ave., New York City, has developed a simple device which permits the placing of water level indicators at any desirable location or elevation. If it is not practical to drop the indicator vertically from the water column on the drum, arrangements are easily made whereby the water column can be placed inside the drum, or horizontal extensions of any length can be made to bring the water column to any desired position.



Perhaps RUBBER can do it better

A piece of molded rubber has replaced with quiet competence the rattlesome spring-and-lever clutch mechanisms in thousands of automobiles. Engineers responsible for the development of these mechanisms were convinced that rubber could do it better, so in conjunction with Goodyear engineers a piece of properly compounded and accurately-molded gum has effected savings of many thousands of dollars to this rubber-wise manufacturer.

Everywhere in industry it is a similar story. Rubber does this or that job better. Rubber does it more cheaply. Amazing indeed, but wherever impact and abrasion are continuous—a relatively small point, it may be, hidden under tons of mechanism—there rubber, yielding, resistant, incredibly long-lived, has proved itself an industrial material superior, sometimes in ratios of six to one, to the finest tooled steel!

There is a broad trail to Goodyear beaten by modern industry. The reason is rubber's superb resistance to wear and the matchless technical abilities arrayed at Goodyear, as nowhere else, for device, for design, for application of rubber to serve you better. Here a corps of willing experts is at your service. Here a tradition of industrial service finds the better way.

Perhaps rubber has a place in your manufacturing processes or in your product. Rubber can be molded into endless numbers of shapes with an invariable micrometer accuracy. Rubber, expertly-placed and treated as is the habit of Goodyear, can bring, perhaps, a new flexibility to your manufacturing, a new thrift, a new efficiency.

Bring your problem to Goodyear. Goodyear's technical experts stand ready to work with you, with enthusiasm and understanding, as they successfully have worked with many others. Just write or wire to Goodyear, Akron, Ohio, or Los Angeles, California.

BELTS · MOLDED GOODS HOSE · PACKING

GOODYEAR

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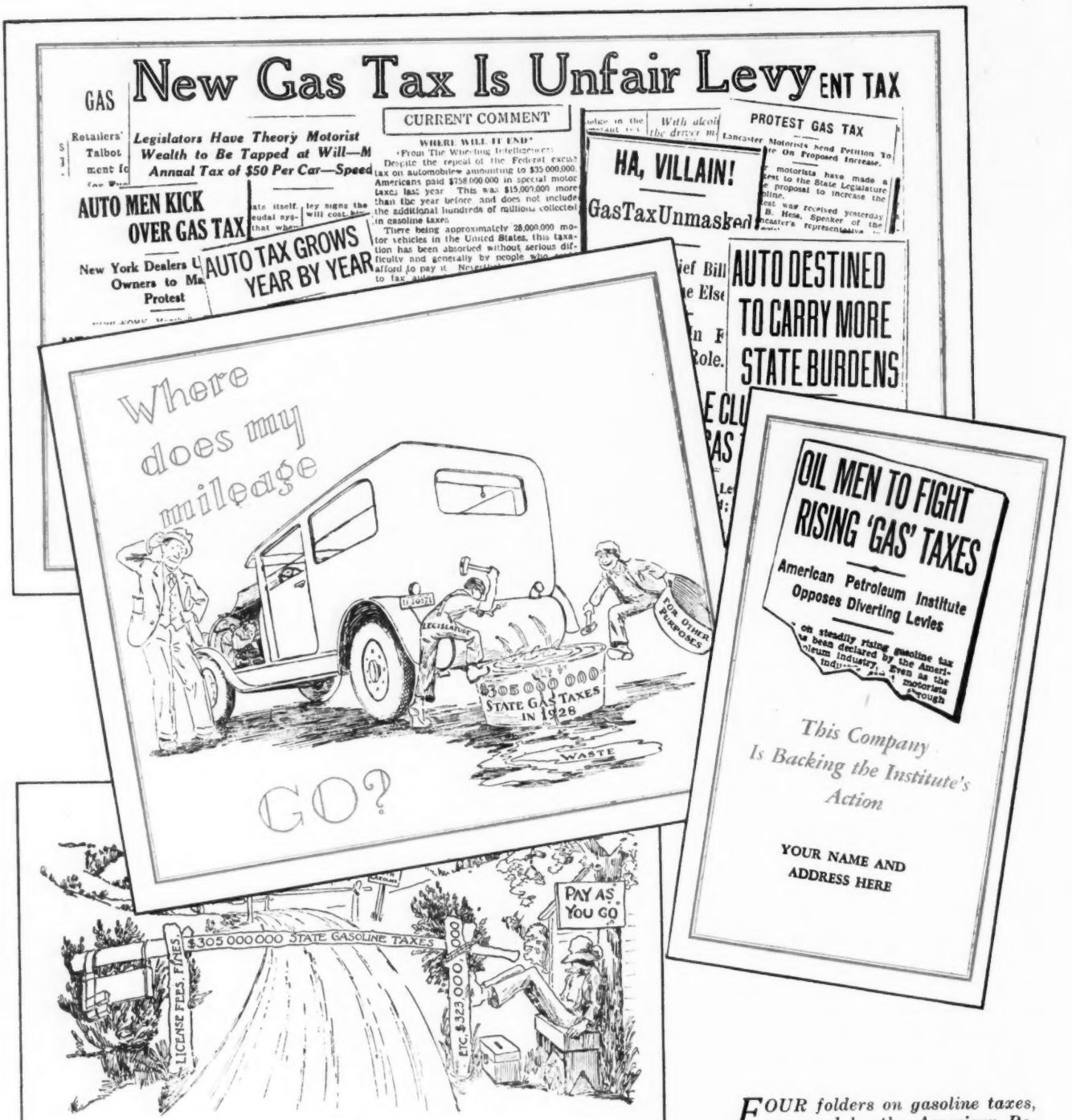
THE GREATEST NAME IN RUBBER

Bring Gas Tax Facts to the Public

Series of Folders Prepared by American Petroleum Institute to Distribute Through Gasoline Stations


New Gas Tax Is Unfair Levy
CURRENT COMMENT
Legislators Have Theory Motorist Wealth to Be Tapped at Will—M
Annual Tax of $50 Per Car—Speed
AUTO MEN KICK OVER GAS TAX
AUTO TAX GROWS YEAR BY YEAR
PROTEST GAS TAX
HA, VILLAIN!
GasTaxUnmasked
AUTO DESTINED TO CARRY MORE STATE BURDENS
Where does my mileage GO?
$305 000 000 STATE GAS TAXES IN 1928
WASTE
LEGISLATION
FOR OTHER PURPOSES
OIL MEN TO FIGHT RISING 'GAS' TAXES
American Petroleum Institute Opposes Diverting Levies
This Company Is Backing the Institute's Action
YOUR NAME AND ADDRESS HERE
PAY AS YOU GO
$305 000 000 STATE GASOLINE TAXES
LICENSE FEES, FINES
ETC. $323 000 000

TAXES AND TOLLS

Few motorists think of State **Gasoline Taxes** as **Tolls**, those abhorred levies of a mediæval day. But you can't drive your car today without paying **Tolls**.

Here's how **Taxes** become **Tolls**. Say your car runs 12 miles to the gallon of gas:

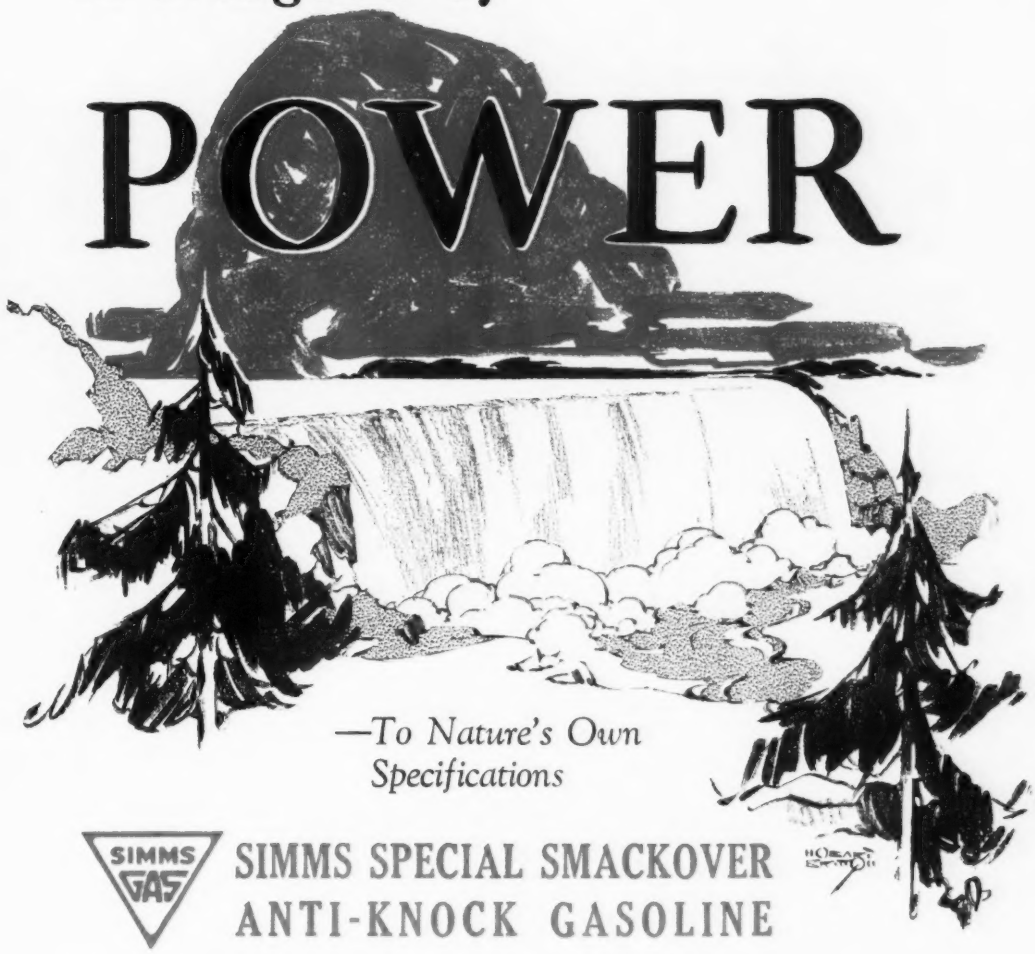
TAXES	TOLLS
2 cents	1 cent every 6 miles
3 cents	1 cent every 4 miles
4 cents	1 cent every 3 miles
5 cents	1 cent every 2.4 miles
6 cents	1 cent every 2 miles

Say you travel 6,000 miles a season, as the average motorist does. You are paying $10 to $30 in **Tolls** in addition to other levies on your car.

FOUR folders on gasoline taxes, prepared by the American Petroleum Institute, are now ready for distribution by oil companies through their stations. Prices on the folders can be secured by writing the institute, 250 Park Ave., New York.

A Niagara of

POWER



—To Nature's Own Specifications

SIMMS GAS

SIMMS SPECIAL SMACKOVER ANTI-KNOCK GASOLINE

Potential power is, after all, the thing you sell when you distribute gasoline. If you can actually offer the motorist more power than your competitor, your sales are bound to be benefited.

Simms "Special" Smackover Anti-knock gasoline delivers—by actual test—more power than most gasolines, because it is refined exclusively from "heavy" Smackover crude, famous for its remarkably high natural anti-knock qualities.

It is a pure, unadulterated petroleum product—sweet and non-corrosive. You can depend on it to deliver greater mileage, and **REALLY** to eliminate knock. In short—a gasoline to nature's own specifications that will thoroughly please your most exacting customers. Write today for further particulars.

SIMMS OIL COMPANY

PRODUCERS REFINERS MARKETERS

General Offices Dallas, Texas

The first super service station of the Standard Oil Co. of Ohio, located on Carnegie Avenue at E. 89th Street, Cleveland

Even Colors Picked to Help Sales

By N. M. Mainpa
N. P. N. STAFF WRITER

WHEN a man's job is disagreeable or uninteresting to him, he isn't going to exert himself to make that job a howling success, in the opinion of A. M. Maxwell, vice president in charge of sales for the Standard Oil Co. of Ohio.

"We try to see that each man is doing the kind of work in our company that he is best suited for, the kind of work he best likes to do," said Mr. Maxwell.

"In hiring service station men, we pick only young, intelligent men, preferably those with high school education. We pay them a living wage. We promise them advancement—then make that promise stick when the man proves his ability. If we find a man still getting the same salary after he has been with us a certain length of time, we check up on him to see where the trouble lies. If we believe him not adapted to his particular work, we try him on another job. This helps us to get the right man on the right job."

Four things, Mr. Maxwell said, accounted for the doubling of Standard of Ohio sales during the past year:

1. Modern, quality products.
2. New, up-to-date equipment.
3. Advertising.
4. Youthful, courteous service station men.

After the reorganization in its management the Standard of Ohio early turned its attention to service station merchandising.

Its first step was to open a training school for prospective station attendants at its headquarters in the East Ohio Gas Bldg., Cleveland. This school is equipped with a working model of a refinery, which illustrates every process through which crude passes on its way to fractionating towers and out again, up to the point when it comes out as finished products, ready for the market.

But the student does not study about distillation and end points the first day. Oh, no. He learns, first, the value of a smile. After that, come many other problems—in fact, everything from tipping his hat to fractionation. His first lesson is on courtesy.

However old and shop-worn the subject of courtesy at service stations may be, it still remains one of paramount importance at that meeting-place of customer and employe, in the opinion of G. G. McIntyre, manager of the service station sales department.

"Every man learns, first of all," Mr. McIntyre said, "that he must be at the machine to greet the customer the moment he turns into his station.

"He must tip his hat, and say 'Good morning, sir' to men drivers, or 'good morning' to women drivers, whichever the case may be, and, of course, depending upon the part of the day. A form of salutation to the customer is insisted upon as the first principle of our training.

"Just how much these little things mean to customers, was illustrated not long ago," Mr. McIntyre continued. "We have an attendant who has been particularly well liked by women drivers. We had an opening at another station for which we thought him well fitted, so we transferred him.

"Well, the inquiries for him we got from these women drivers were so many that we had to bring him back.

"What they liked about him? I guess it's just in letting them think that it's a personal matter with him that their cars were properly served. When he was busy and couldn't wait on them right away, he would let them know he saw them by greeting them or telling them he'd be right over. Who wouldn't like that attention, that feeling of a personal interest."

THERE are 11 points in what the company calls its "service" course that the attendant learns in the school. His first duty is, of course, to serve the customer with gasoline. Then he inquires about motor oil and grease, sees that the radiator has water, that tires have enough air, and wipes off the windshield and rear window.

In this course he studies the guide for service station operation which tells him about the daily testing of pumps, accepting of checks, and about handling complaints and so on.

He learns enough about the anti-

At Ohio Standard's New Stations

knock quality of the gasoline he is selling to answer questions intelligently. He must be able to explain the difference in gasolines, telling the customer that in Sohio Ethyl gasoline carbon does not form as quickly as in other gasolines.

IF HE is asked why there are so many different grades of lubricating oil, he can tell the customer that, too. He has an idea of how motor oil is made and can explain what is meant by cold test, if anyone should ask.

Why crank cases should be drained regularly for actual removal of all old oil, instead of merely adding new oil to the old, and why grease should be used instead of oil in certain parts of the car, are subjects upon which he is well versed.

He learns about the dozens of specialties the company makes and he sells a certain one of them each week against a quota.

When the drive is on for liquid gloss, for instance, he learns enough about its high points—what it does, what it's used for and how it works—to be able to offer his sales talk convincingly.

During May, when the company introduced its new Sohio wax-free motor oil, a reprint of its advertisement in newspapers and magazines was posted in a prominent place in its service stations. The attendant picked up his sales talk from this and explained to the motorist how this oil will pour below zero and maintain as well its viscosity at high temperatures developed in today's hard-driven engines.

"We don't want the men to talk like parrots," Mr. McIntyre said, "by repeating exactly the same thing in the same way each time. We give them an idea of what they should say, but each man is expected to put it into his own words and change it around frequently, so that a customer driving into our stations more than once that week will not hear the very same words twice."

When the school is taking up the subject of gasoline, for instance, no other subject can be brought up by the students. All questions must be confined to this product. The men are encouraged to ask questions, all of which are answered in detail by the instructor.

When the student finishes his course, he takes a written examination and his paper is graded by the personnel department. The same routine of study is covered when lubricating oil is discussed, or grease, or any of the other products.

The school course also comprises actual training at the company's new East 89th St. and Carnegie Ave., super service station* in Cleveland, where from 20 to 25 students are being trained at all times. Here they receive instruction on greasing and oiling and station operation.

A TRAINED expert in greasing is in charge of the lubritorium at this station. Five to seven men are employed here regularly for greasing work. Each student who aspires to do this work learns where the oil gauge is located on every standard make of car, where to grease and oil each car, and how to do it. He watches experienced operators first and then does it himself under the supervision of an instructor until he becomes competent.

Not every Standard station has greasing facilities. Those that do not direct inquiries to the nearest one that does such work, with the information that greasing cannot be thoroughly done at every station, in the event the customer asks about it.

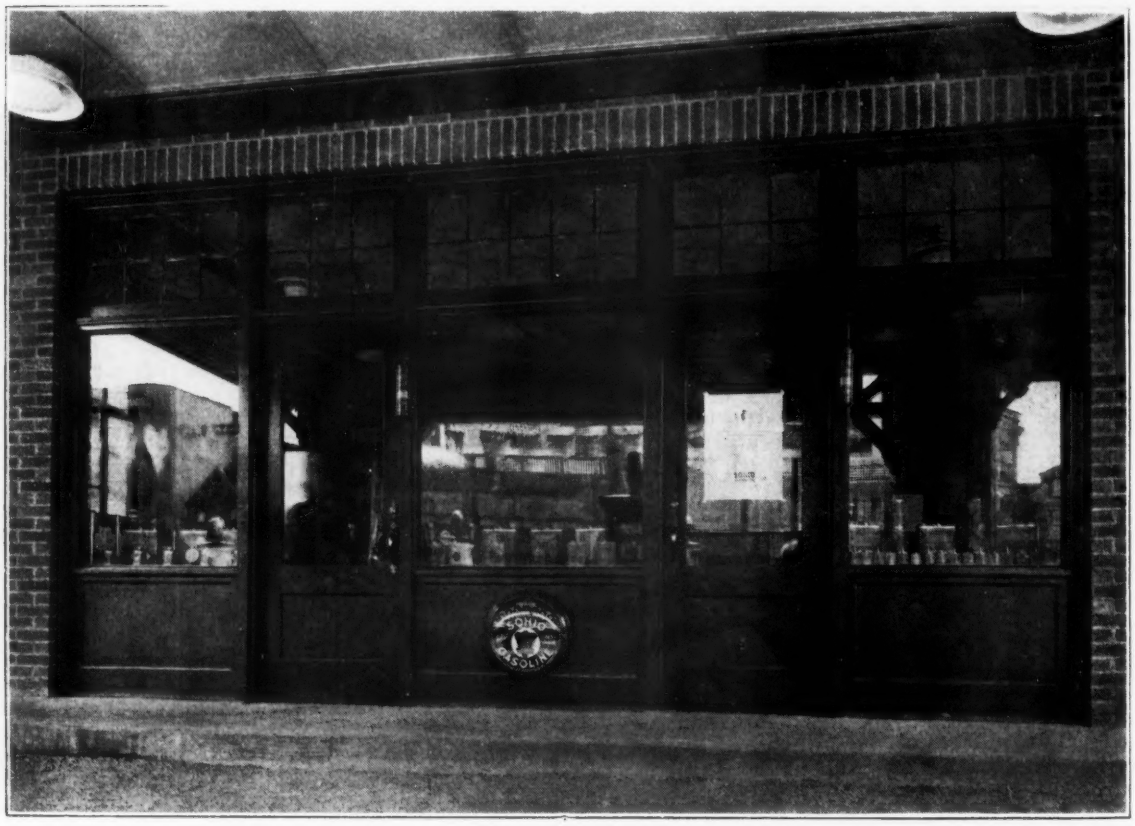
THERE are 16 supervisors in the Cleveland division, each with from 12 to 20 stations under his jurisdiction. Eight of these supervisors are in Cleveland proper. The other divisions are Toledo, Cincinnati and Columbus.

Supervisors, of course, have been "through the mill" themselves, and are thoroughly acquainted with all problems affecting their stations. They are in a position to advise and instruct attendants and they are frequently called upon to lecture in the school room on any subject in the training school course. Many of them are taken on a trip through the Cleveland refinery to get a better idea of actual plant operation and of manufacturing processes. The Carnegie Ave. station falls under the supervision of Vincent E. Sauer and is managed by J. P. McKenney.

Particular attention is paid by the company to its display windows. The men are coached on how to arrange their displays, being told that simplicity is the most attractive arrangement. They are urged to display one

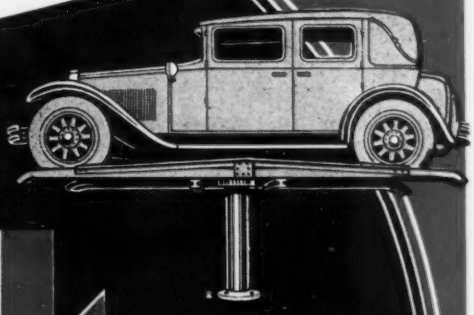
*National Petroleum News, Feb. 13, 1929, page 96.

A close-up view of the first super service station of the Standard Oil Co. of Ohio, located on Carnegie Ave. at East 89th St., Cleveland, showing the gasoline selling end of the station. Architectural design is of English Tudor type



This display window helps the sale of such specialties as cleaning fluid, household lube oil, liquid gloss, transmission oil, and brake dressing, in addition to motor oil and greases

NO PACKING GLAND!



A VITAL ADVANTAGE

found in NO OTHER hoist

"NO PACKING gland" — just a short phrase but it carries a big message. It means a tremendous saving in operating power, less air required, because there's no unnecessary pressure between piston and cylinder wall. It means easier rotating, because there's no tight-bound collar around the piston to create friction that interferes with free movement of the hoist. It means no oil leakage, because the oil is kept below the piston itself.

Globe's patented design keeps pressure concentrated against the base of the piston; every ounce of pressure does its full share of lifting. This outstanding advantage of Globe Hoists is backed by the experience gained through years of hoist-building—proved by hundreds of operating records which show that Globe Hoists have the lowest maintenance expense—recognized by a constantly growing list of important oil companies who have standardized on Globe for all installations.

These companies have ceased to think of the Globe Hoist as an expense. They know it is a genuine investment, that pays bigger cold-cash dividends because the Globe is a better Hoist.

GLOBE MACHINERY & SUPPLY CO.
DES MOINES, IOWA

7 Points of Superiority

1. Absolute safety
2. Less air pressure required
3. All oil below piston—no leakage possible
4. No surface drainage
5. Rotates and operates easier
6. Quicker, more economical installation
7. Oil tank below frost line

A higher type of GREASING SERVICE

Copyright 1929 by Globe Machinery & Supply Co.

GLOBE *Auto* HOIST

SAFER — QUICKER — BETTER

An interior view of the lubritorium—greasing department—of the Standard of Ohio's new super service station in Cleveland

product at a time, using larger cans in the back and smaller ones in the front. Different sizes of containers are used as much for a more attractive display as for convenience in selling.

Much of this information is imparted to station men in the "Standard Service Station Sales Bulletin" published for station employes. One edition illustrates how a window should look and how it should not look.

ONLY such specialties as interest oil customers are on display. The large window at the new Carnegie Ave. station has neatly arranged rows of such packaged goods as liquid gloss, cleaning fluid, household lube oil, Polarine motor oil, spring and transmission oil, clutch and brake dressing, pressure gun grease, cup grease, and "Kip," the product for exterminating insects.

Many of these specialties are put up in small 25-cent cans so they will be easy to carry away. The liquid gloss, for example, comes in small cans equipped with spurt caps for handy use. They can be conveniently taken away in the pocket of the car, or most anywhere, and the price is low enough to insure good sale.

The theory is that people will much more readily spend a quarter than a dollar.

Inasmuch as most of this station's patronage is from the eastern residential section of the city, there is not much demand here for packaged motor oil, for instance, as at some other of the company's stations patronized by less affluent motorists. There is, however, a ready sale for the liquid gloss and for the household lube oil which appeal particularly to the many women drivers coming in from the "Heights," high class residential district.

A special drive for the liquid gloss is always timed for housecleaning time and the attendants go after women drivers particularly. This is a polish for cars, furniture, hardwood floors, etc.

Lively competition is created among the attendants by a quota and bonus each week for the sale of these specialties. The quota is placed at not too high a figure so that it will be within reach with a little effort on the part of the men. The men earn anywhere from 10 to 35 per cent over their salaries in this way, Mr. McIntyre estimated.

The thoroughness with which the new management has tackled marketing problems from all angles is well illustrated in the care and effort it expended in the selection of its new color scheme.

Color as a determining factor in sales has long been recognized by merchandising companies in many industries. It is now an old story that color and combinations of color affect human beings to such an extent that a sale may hinge upon that very thing.

Color must, first of all, attract. Further, it must please and soothe, not repel and annoy. It must instill the idea of cleanliness where a sale is concerned.

All these things were carefully considered when the company decided to bury forever its historic, chilly, green-and-white, and adopt the more vivid red, white and blue.

"No, red, white and blue were not picked because they are our national colors," said Arthur S. Gray, artist and color expert with the company. "In fact, we tried red, white and purple first but that didn't please our customers. Blue was later substituted for the purple.

"Now we have a color scheme that not only appeals to people because the colors are patriotic, but because it is the best combination we could have from all standpoints.

"Red was chosen because it incites action. It is really a sales color. Besides, it has greater visibility than any other color, and is what we call a 'foreground' color.

"For this reason the roof and top part of our service and bulk stations are painted red. We want motorists to see them from afar. Comments received here indicate that aviators are able to readily spot our stations through Ohio due to the visibility of the red roofs. White, to aviators, looks like a pond or body of water at any great distance.

"BLUE, a softer, heavier, 'background' color, is used at the bottom of our stations. It is obviously more practical than white for this part of the station as it doesn't show the soil so quickly.

"The combination of blue and white designates cleanliness, long recognized as ideal colors for kitchens, bath rooms, restaurants, or wherever an impression of cleanliness is desired.

"The white is used in a wide strip in the center of our stations for its attention value, too. All in all, in order to get the highest scintillation possible, red and blue, separated by white, does the trick," Mr. Gray explained.

New Stations Building

Howell, Mich.—McPherson Oil Co., filling station.

Langston, Mich.—Sinclair Refining Co., filling station.

Oak Grove Village, Mich.—Sinclair Refining Co., filling station.

Rushville, Ind.—Firestone Co., service station.

Battle Creek, Mich.—F. H. Gould, filling station.

Eaton, Ohio—Indian Oil Co., bulk station.

Bishop, Tex.—Humble Oil & Refining Co., filling station.

Emmetsburg, Ia.—White Eagle Oil & Refining Co., service station.

Monticello, Ind.—Crowell & Foust, filling station.

Indianapolis, Ind.—Western Oil Refining Co., filling station.

Negaunee, Mich.—Standard Oil Co., filling station.

Delphos, O.—The Texas Co., filling station.

Shelbyville, Ill.—Standard Oil Co., service station.

Wescanapa, Mich.—Escanaba Oil Co., service station.

Salem, Ind.—Lee Gorman, filling station.

Elmhurst, Ill.—William Hayes, fuel oil station.

Glenview, Ill.—Standard Oil Co., filling station.

Beldin, Mich.—Frank Kemp & John Krupp, filling station.

Belleville, Ill.—Lorenz Co., service station.

Kingsport, Tenn.—Standard Oil Co., filling station.

Rockford, Ill.—Perfect Oil Co., filling station.

Woodbury, Tenn.—John Earls, filling station.

Ironton, O.—General Tire Co., filling station.

McHenry, Ill.—John Anderson, filling station.

Rogersville, Tenn.—Shell Petroleum Corp., filling station.

Wickliffe, Ky.—Herman Lawrence, filling station.

West Point, Ky.—Gulf Refining Co., filling station.

Larium, Mich.—Sinclair Refining Co., filling station.

Mason, Ky.—Indian Refining Co., filling station.

Claremont, N. H.—Pan American Petroleum & Transport Co., two filling stations.

Richmond, Va.—Kirkmyer Co., filling station.

Coleraine, Minn.—Shell Petroleum Corp., filling station.

Minneapolis, Minn.—Kunze Oil Co., filling station.

Hudson, Wis.—White Eagle Oil & Refining Co., filling station.

Helena, Mont.—Shell Petroleum Corp. filling station.

Clinton, Ia.—E. C. Walsh, Jr., filling station.

Chamberlain, S. D.—White Eagle Oil & Refining Co., filling station.

Kansas City, Mo.—White Eagle Oil & Refining Co., filling station.

Metz, Mo.—Rex Shellenberger, filling station.

Osage, Ia.—Co-op Oil Co., filling station.

Leon, Ia.—Standard Oil Co., filling station.

Ames, Ia.—E. L. Yates, service station.

Goose Creek, Tex.—The Texas Co., filling station.

Bluefield, Va.—Standard Oil Co., filling station.

Channing, Tex.—Phillips Oil Co., wholesale gas and oil station.

McBaine, Mo.—Illinois Oil Co., filling station.

Pulaski, Va.—Whiting Oil Co., filling station.

Wheeling, W. Va.—Isaac Bassford, filling station.

New Orleans, La.—Capital City Auto Co., service station.

Peekskill, N. Y.—Standard Oil Co., filling station.

Medford, Mass.—William Huey, filling station.

Winston Salem, N. C.—Southern Dairies, Inc., service station.

Wilmington, Del.—The Texas Co., filling station.

Washington, C. H., O.—Shell Petroleum Corp., bulk station.

South Sioux City, Neb.—Mona Motor Oil Co., filling station.

Arkadelphia, Ark.—Transcontinental Oil Co., storage station.

Sommerville, Tex.—C. C. Bee, filling station.

Fredericktown, Mo.—Mississippi River Fuel Co., gas pumping station.

Lebanon, Kans.—Cline & Renken, filling station.

Pine Bluff, Wyo.—W. A. Lauer, filling station.

Elvins, Mo.—Standard Oil Co., filling station.

Salem, Ind.—Lee Gorman, filling station.

Shreveport, La.—Mrs. Leon Smith, filling station.

Spencer, Ia.—Skelly Oil Co., filling station.

Marquette, Mich.—A. L. LaMoria, filling station.

Auburn, Ind.—Day Bros., filling station.

Glenwood City, Wis.—Robert Schultz, filling station.

Devil's Lake, N. D.—Standard Oil Co., filling station.

Helena, Mont.—Jack Colvin, filling station.

Oskaloosa, Kans.—Mr. Robinson, filling station.

Boone, Ia.—Hudgel Bros. Oil Co., service station.

Stanberry, Mo.—R. S. Liggett, filling station.

Gonzales, Tex.—Anton Valenta, filling station.

Carthage, Mo.—Shell Petroleum Corp., bulk station.

Great Bend, Kans.—Phillips Petroleum Co., filling station.

Fostoria, O.—Lyons & Snyder, filling station.

Omaha, Neb.—Paul Jacoby, service station.

Augusta, Kans.—White Eagle Oil & Refining Co., filling station.

Waterloo, Ia.—Phillips Petroleum Co., filling station.

Larned, Kans.—Phillips Petroleum Co., filling station.

Bristow, Neb.—Farmers Union Gas & Oil Co., service station.

Pueblo, Col.—Firestone Tire & Rubber Co., service station.

Storm Lake, Ia.—Cities Service Oil Co., bulk station.

Larned, Kans.—Phillips Petroleum Co., bulk station.

Humboldt, Ia.—Charles Brown, service station.

Waseca, Minn.—White Eagle Oil & Refining Co., filling station.

Kenedy, Tex.—C. Barker, service station.

Seymour, Tex.—American Refining Co., filling station.

Warrensburg, Mo.—Shell Petroleum Corp., filling station.

Olathe, Kans.—Skelly Oil Co., service station.

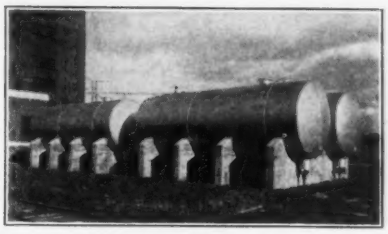
Grand Island, Neb.—Albert Heyde, filling station.

Frederick, Okla.—E. L. Flynt, filling station.

Homer, Neb.—Robert Erlach, filling station.

Langdon, N. D.—Farmers Union Oil Co., service station.

-TANKS-



Public Service Production Co.
Roseland, N. J.

RED-HEAD tanks are designed and built to safely store inflammable liquids of any type. Highly combustible oils are confined with surety, as all seams are welded or riveted-and-welded, tested and guaranteed tight at a pressure of five pounds per square inch. They meet all the requirements of the Underwriters' Laboratories and can be furnished with Underwriters' Labels if desired.

RED-HEAD tanks, carried in stock and ready for immediate shipment, range from 75 to 26,000 gallons in capacity.

Pittsburgh-Des Moines Steel Company

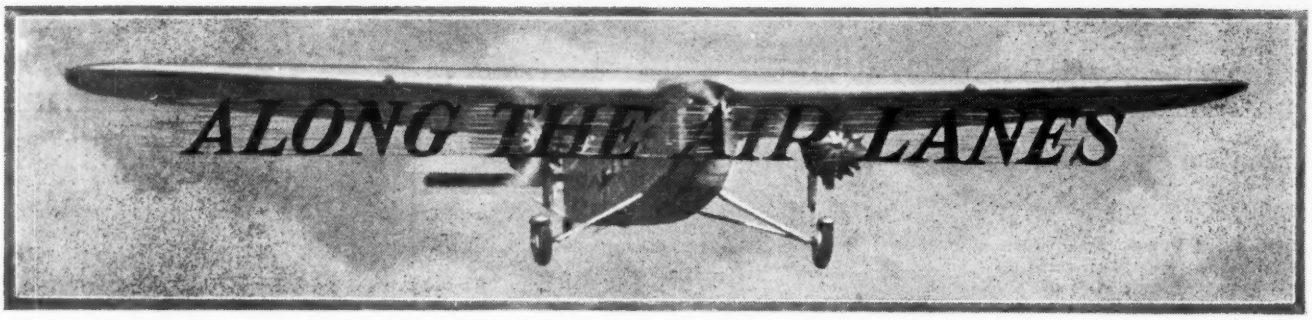
55 Neville Island, Pittsburgh, Pa.

DON'T DIVIDE HIS BUSINESS WITH A COMPETITOR

Concentrate all his purchases in your stations by selling him a handy, convenient coupon book.

A coupon book brings him back again and again—creates a bond of friendship. He's your customer indefinitely. Write us for complete information on Allison Coupon Books. They're accurate, neat and well made, yet cost no more.

ALLISON COUPON CO.
INDIANAPOLIS, INDIANA
SINCE 1888



MORE airplanes and more aviation salesmen, as soon as this branch of the business warrants, is the program of The Texas Co., New York, according to F. M. Hawks, superintendent of aviation. This company is now using four planes, two of which are entirely for use of salesmen in soliciting aeronautical business.

This desirability of having aviation salesmen arrive at airports in airplanes, rather than taxis or automobiles, is borne out by the recent comment of an official of another large oil company, also contemplating wider use of planes, who said:

"A salesman arriving in a taxi or automobile at an airport to sell gasoline or motor oil for airplanes, is regarded by officials at those airports just like a salesman arriving on horseback to sell gasoline to a garage would be regarded by the garage proprietor."

The Texas Co.'s investment in its first tri-motored Ford plane came back through advertising and publicity it gained for the company. This plane had a carrying capacity of 4000 pounds. It was flown all over the United States by Mr. Hawks in 1928 on a mission of good-will and for the stimulation of interest in aviation. It traveled more than 50,000 miles, carried 7200 passengers on demonstration flights and visited over 150 cities.

One of the new planes added this year—a Lockheed—is being used by B. E. Hull, president of the Texas Pipe Line Co., for urgent business trips. That plane has already covered some 10,000 miles. It is equipped with a Wright Whirlwind motor of 200 horsepower.

Mr. Hawks himself is flying a Lockheed-Vega air express modeled with a Pratt & Whitney 420 horsepower Wasp motor. This is the same plane with which the transcontinental record was broken on Feb. 4 and 5 this year with time of 18 hours and 21 minutes. Mr. Hawks is using it strictly for business purposes in covering the country, visiting airports and following company activities in the promotion of sales of Texaco aviation gasoline and airplane oils.

That fast airplanes are practical for speeding up business about the country is proven by Mr. Hawks' record of 25,000 miles in this new Lockheed air express, averaging more than 150 miles per hour, for the total mileage involved.

Covering New England and other eastern seaboard states for the company is J. D. Jernigin, who pilots a Curtiss Robin with a 160 horsepower Challenger motor.

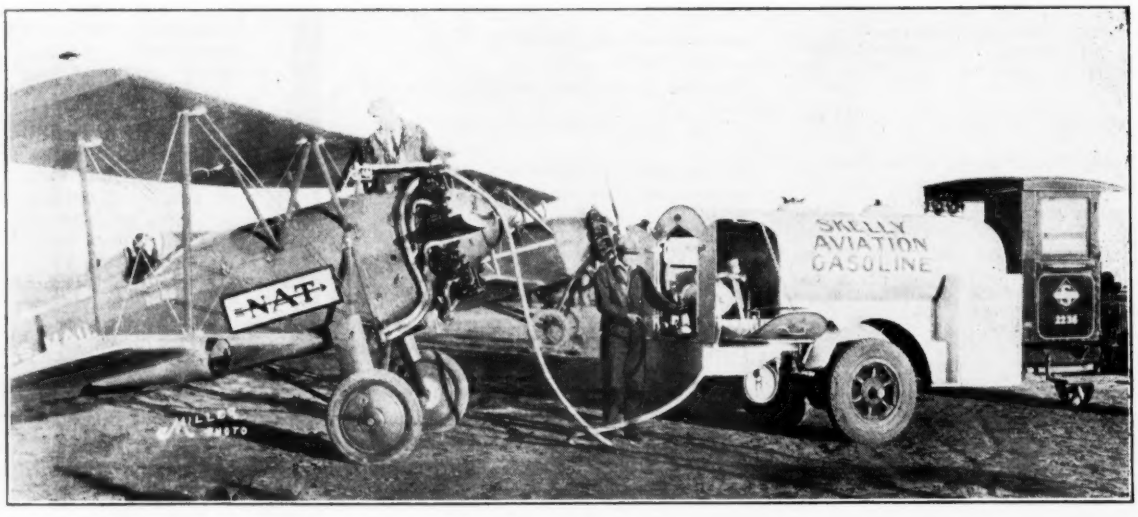
George Turner, aviation salesman, uses a Stinson, Jr., equipped with a Warner Scarab 110 horsepower motor, in covering Ohio, Indiana and other middlewestern states.

Larry H. Cooper, aviation salesman for the west coast, has not yet been supplied with a company plane, but uses the planes of various operating companies in his territory.

* * *

An interesting stunt which commanded the attention of the Milwaukee public last fall was when the Wadhams Oil Co.'s Fairchild cabin airplane, accompanied by another Fairchild plane with folding wings, taxied under their own power to the main post office to get their loads of air mail, and back to the flying field where the wings of one plane were unfolded, and the plane took off on the mail route.

The amount of newspaper space devoted to this stunt furnished the



A refueler for airplanes, one type of which has compartments for gasoline, motor oil, water and air, has been placed on the market by the Columbian Steel Tank Co., Kansas City.

The chief advantage of this device is its mobility, which enables the service crew to go to the airplane wherever it might stop, rather than requiring the plane to "taxi" to underground tanks and pumps with the accompanying danger of fire.

The company is making several types of these refuelers, in both hand and power operated. The larger type with the compartments, has automatic pumps for each product, with accurate gages of each.

ELVO

—this "super lift" solves one of the most perplexing greasing station problems of the day

It is agreed that "greasing and under chassis" service is an established necessity—that motorists are buying such service regularly—but they go to those stations *where they can see their work done properly.*

Many stations are losing lots of good profitable business because they are not "lift equipped"—you cannot do (nor make your customer believe you can do) a good greasing job on the floor or from a home-made low drive-up rack.

Many stations go along and are content with a small amount of business from their "old-pit-idea" because they feel that the cost of a "lift installation" is too much.

Many who operate more than one station have hesitated to install "lifts" because of not knowing just where to locate them to get the most of the traffic.

ELVO LIFTS HAVE ANSWERED ALL!

The first cost of an ELVO is *attractively* low. The cost of installation is a matter of *only a few hours' labor*—say $15.00 (compare this with others—excavating, cement work, etc.).

The ELVO is erected upon the ground, concrete runway or floor. NO PIT—NO DIGGING—NO CONCRETE WORK—NO PIPING—NO DRAIN—NO NOTHING—just set it up—inside or out.

The ELVO requires no permanent place—if you don't like your first location *move it*—if you want to try out greasing at several station locations before going into the business on a big scale *move it around.*

Comparatively speaking the ELVO will save you the best part of $100.00 as against the installation and other extra costs of "hydraulic, rotary or other lifts or racks" that require foundations, pits or holes.

There is so much more to say about ELVO we suggest you write for *special bulletin and attractive low prices.*

FARRELL MANUFACTURING CO., JOLIET, ILL.

Manufacturers of the Well Known Farrell Truck Tanks

CHICAGO	DETROIT	CLEVELAND	PHILADELPHIA
1213 W. Washington	5459 Grand River Ave.	4336 Broadway	233 So. 8th St.

Box Type Cases

Attractive and serviceable cases of black cobra grain Keratol and lined with red velveteen. Comfortable handle. Plain bottles in separate compartments.

No. 260—Contains twelve 2-oz. long bottles and five ¼-oz. tall grease jars..... **$3.20**

No. 261—Contains six 4-oz. bottles and five ½-oz. grease jars..... **$3.55**

No. 262—Contains seven 4-oz. bottles and five grease jars..... **$3.80**

No. 263—Contains nine 4-oz. bottles and four ½-oz. grease jars..... **$4.25**

10% discount for Cash

Other Styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware Kansas City, Mo.

Guaranteed 100% PURE PENNSYLVANIA OIL

Finest Grades of

100% Pure Pennsylvania Products

GASOLINE
KEROSENE
FUEL OIL
NEUTRALS
BRIGHT STOCKS
MOTOR OILS

Our 30 years of experience is our guarantee to you of the finest and best products that can be produced.

Let us quote on your requirements.

Write—Wire—Phone

Superior Oil Works
Warren, Penna.

Wadhams company with valuable publicity.

The company uses this five-passenger plane in transporting officials from one point to another in its marketing territory, and also for advertising purposes, according to Francis H. Casey, manager of the advertising division.

* * *

Airplanes have been "set down" in unusual places, but C. F. Lienesch, manager of technical relations of the Union Oil Co. is believed to be the first flyer to land in a sheep corral.

While flying over New Mexico recently on a return trip to Los Angeles from the Middle West, Mr. Lienesch ran into a wind storm that kicked the dust up to the high altitudes so that in places it was almost as thick as fog.

After bucking the wind for several hours and inhaling the dust he decided to make a landing. The signs of human habitation were few and far between in the desolate section over which he was flying so he followed a road until he finally spotted a ranch house.

The field on one side of the place was plowed; on the other it ran up hill at a dangerous angle and on two sides was a ravine. In the center was a sheep corral that apparently offered the only safe landing. He nosed his Travelair downward and came in at a height sufficient to clear an old-fashioned root house and the corral fence. He brought his plane to a stop within a short distance of the far end of the inclosure, herding the sheep as he did. The corral is about 400 feet long and 100 feet wide. The altimeter in Mr. Lienesch's plane showed an elevation of 7200 feet above sea level.

Though safely in, getting out presented a more difficult problem. The high altitude lessened some of the lifting power of the plane, but the next morning he opened up his 225 horsepower Wright whirlwind motor and cleared the fence with considerable margin to spare.

* * *

Maybe you wouldn't want to travel in an airplane at all, much less in one loaded with nitro-glycerine. However, this highly explosive substance was safely carried by airplane recently to Calgary, Alta., oil field, according to the American Air Transport Association.

The air trip was necessary due to snow blocking the roads and the fact that trains are not permitted to transport nitro-glycerin. When the plane started, on-lookers were kept at a distance of one mile.

Two hundred quarts of it were carried and 250 miles was the distance flown.

* * *

Airplane transportation was to have been furnished for the entire Wichita, Kan. Rotary Club members attending the international convention at Dallas, May 27 to 30, according to M. W. Welty, Phillips Petroleum Co., Bartlesville, Okla.

That company was to contribute the use of its "Travelair" cabin monoplane for this purpose, in charge of P. J. Quinlan, division manager at Wichita in charge of marketing in Kansas and Colorado. Charles Parker was scheduled for pilot on this trip.

This is believed to be the first time that an entire club or organization has traveled to a convention by airplane, and this particular flight was particularly for the purpose of letting the world know of Wichita's importance in the airplane manufacturing industry.

P. J. Quinlan
Division Manager for Phillips Petroleum Co.

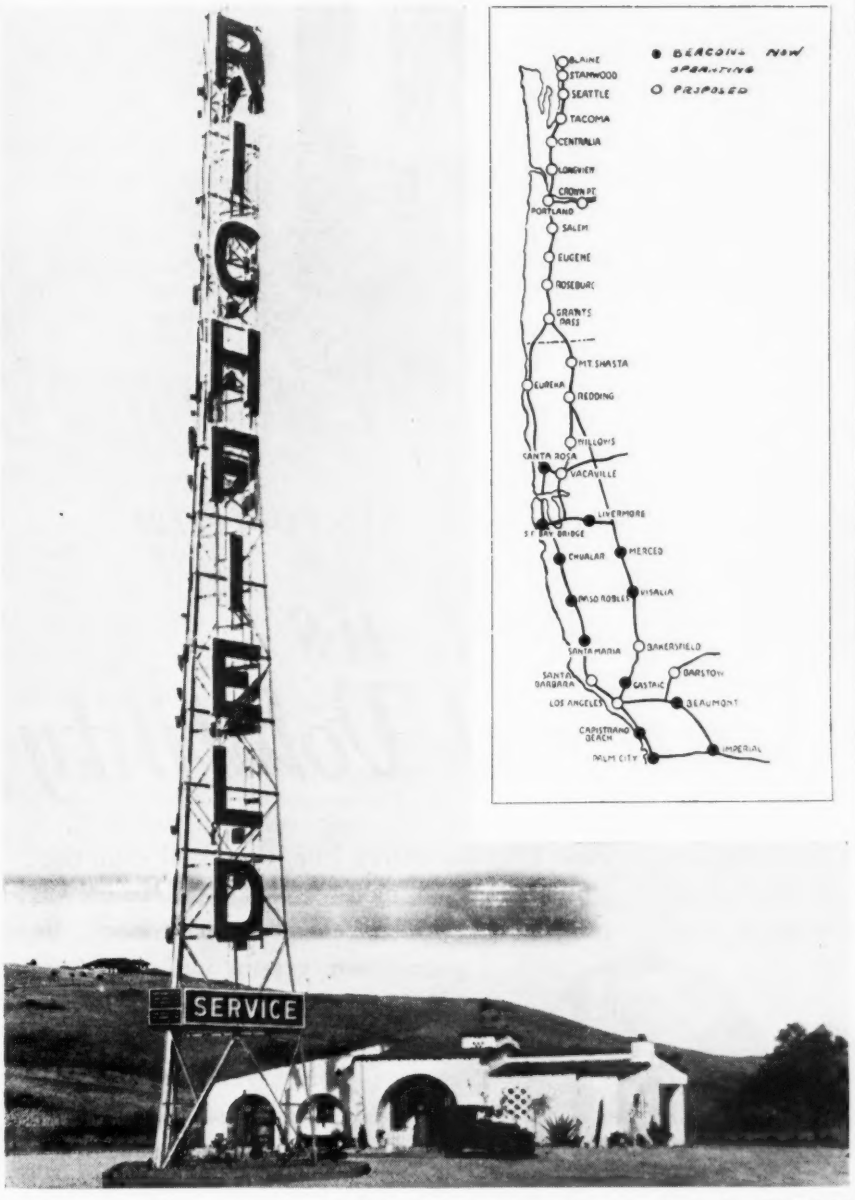
The Phillips company makes a special aviation gasoline, among other petroleum products.

* * *

A careful record of operating costs of airplanes by the Naturaline Co. of America, Tulsa, which operates several planes, reveals that the mileage cost is no greater than on a good automobile, whereas the speed of the plane places it far ahead of any other form of transportation in covering a large sales territory, according to Fred L. Foster, in charge of Naturaline aviation fuel sales to airports.

Continental Can Co., Inc., 100 E. 42nd St., New York City, reports record sales for April in its Chicago and Jersey City plants. It makes containers for oils, paints, drugs, chemicals and for many other products.

Beacon Towers for Flyers At Richfield Stations



One of the high-powered, 125-foot, Neon-lighted beacons that the Richfield Oil Co., Los Angeles, is installing through the Pacific coast. The map shows the points at which these beacons have been erected

Triangular-shaped steel towers, 125 feet high, are being erected by the Richfield Oil Co., as beacons for aviators along the Pacific coast. These beacons will be equipped with Neon lights and each beacon will be surmounted with a rotating light and a directional light, both having an intensity of 8,000,000 candle-power. They are visible for 50 miles in clear weather, aviators claim.

Beacons will be erected from Blaine, Wash., to Palm City, on the Mexican border. Cities already having them are: Palm City, Imperial, Capistrano Beach, Beaumont, Castaic, Santa Maria, Paso Robles, Visalia, Merced, Chualar, Livermore, Santa Rosa, and two points on the new seven-mile bridge across San Francisco bay.

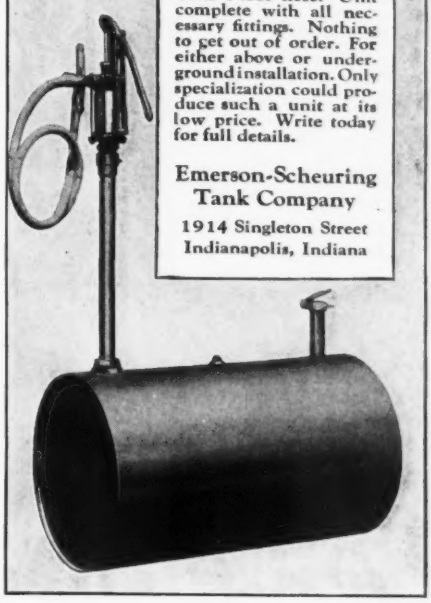
A service station, to conform to the territory in which it will be located, will be built along with each beacon. In California, all stations will be of Spanish type architecture, while those in Oregon and Washington will be of the more rugged Norman type.

At Portland, Ore., the Richfield company will erect a Neon-lighted sign which, it is claimed, will be the largest in the world.

This Complete
FARM UNIT
for Gasoline or Kerosene

DOUBLE your tank wagon business with this dependable, *inexpensive*, complete pump and tank outfit. Sturdily built, electric arc welded tank of rust-resisting copper alloy steel—either 120 gallon or 200 gallon sizes. Pump provided with 8-foot hose. Unit complete with all necessary fittings. Nothing to get out of order. For either above or underground installation. Only specialization could produce such a unit at its low price. Write today for full details.

Emerson-Scheuring Tank Company
1914 Singleton Street
Indianapolis, Indiana



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NATIONAL PETROLEUM NEWS
700 Penton Bldg.
Cleveland, Ohio

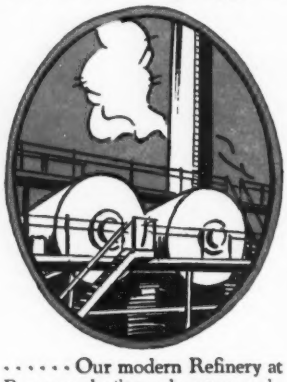
Are You Still Selling Winter Gasoline?

The answer is "no" if you are selling

PARCO *with its Controlled Seasonal Volatility*

Has the gasoline in your pumps the volatility your thermometer shows it should have? Are you trying to sell ear muffs instead of straw hats—winter gasoline for warm weather driving?

Volatility *must* conform closely to actual weather conditions. That's another big advantage of PARCO Gasoline. Regardless of when you receive a car of PARCO, it comes to you with the volatility that is *exactly right for that particular season.* Every drop of it is directly controlled—pre-determined to be ideal motor fuel—"tailored" for each specific season.



..... Our modern Refinery at Parco was built to advantageously supply Northwest jobbers. ..... Our Refining facilities at West Tulsa and Blackwell mean advantageous freight rates for Southwest and Central States jobbers.

And PARCO is free from the usual gum that causes so much motor trouble—sticky valves, plugged gas screens, clogged carburetors. Its *guaranteed* crystal white color is truly indicative of its superiority as a motor fuel. Add PARCO'S features together—*a highly cracked gasoline, guaranteed crystal white color, controlled seasonal volatility, sweet odor, high-anti-knock value, freedom from gum*—and you know why PARCO is *the Premium Motor Fuel Without Premium Price.*

It will pay you to have our Sales Agent tell you *all* about PARCO. Write to the nearest office.

PRODUCERS AND REFINERS CORPORATION

Independence Denver Chicago Tulsa Salt Lake City Memphis Omaha

Seasonably Volatile

PARCO

PARCO PETROLEUM PRODUCTS

THE PREMIUM MOTOR FUEL WITHOUT PREMIUM PRICE

Alabama Jobber Builds Large Volume In Variety of Special Oils

By Ward K. Halbert
N. P. N. STAFF WRITER

MONTGOMERY, Ala.

HELLO there, mister, have you got any elephant oil?

The unusual question came over the telephone a few months ago to W. B. Britton, president and general manager of the Interstate Oil Co. of Montgomery.

"Yes sir," replied Mr. Britton.

"Are you sure?" The voice at the other end of the line seemed a little agitated. "We've got to have some and I've telephoned every oil company in town. I'm right ready to send and get it."

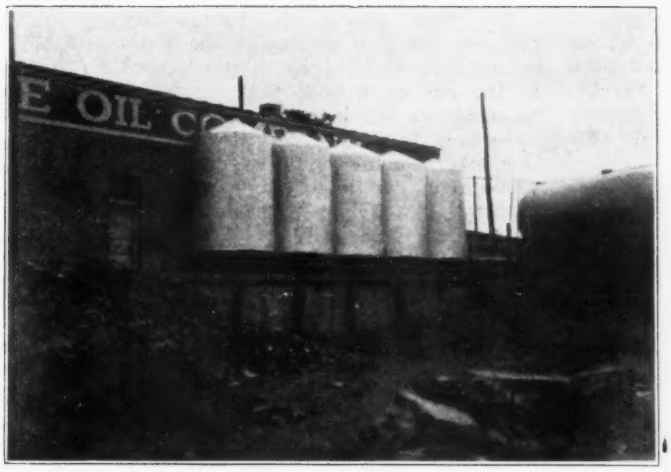
"Send for it, we have it," was Mr. Britton's assurance.

There was a circus in town that morning and the elephants needed a shampoo. They need one about twice a year. Sometimes the subordinate executive in charge of elephants for a circus has a hard time locating the right product, even if it *is* only crude oil—preferably a crude with very little gasoline content. But Interstate Oil Co. had it.

It was a very unusual order but Mr. Britton prides himself on being able to fill unusual orders. It is not a hobby but a business policy of the company to stock at least a little of every product an oil man may be called upon to supply.

The practice has been quite profitable to Interstate Oil Co. Other oil jobbers in smaller towns near Montgomery know about Mr. Britton's varied stock of petroleum products and they have not tried to emulate him. They are content to call on him when they are confronted with an unusual demand and let him supply their needs.

Traveling salesmen for Interstate Oil Co. never miss an opportunity to call on the oil jobbers in their territory and keep them acquainted with their company's unusual service in such cases. In this way Interstate Oil Co. maintains friendly relations with nearby oil men who are competitors in their respective territories for business in the more highly competitive lines, like gasoline and motor oils.



Five 4000-gallon tanks for specialty products bought in compartment tank cars, installed outside of jobber's warehouse in Montgomery, Ala.

In the basement of Interstate Oil Co.'s warehouse at 802 North Court street will be found stock of such merchandise as alcohol, axle grease, bar grease, cylinder oil, cutting oil, dip, elephant oil, graphite grease, pine oil, soaps, spindle oil, Stodard solvent, transmission lubricants and V. M. & P. naphthas. In addition to these is a small stock of tank wagon buckets, milk cans and pump hose, stocked for accommodation and not profit.

"Oil men who operate in too small a territory might stock such merchandise at a loss," Mr. Britton explains. "But in the territory wherein we market, combined with those of our neighbors, there is enough demand for almost anything to justify a small stock of it. Besides, the margin is wide enough on special products that there is a profit to divide between us and the man who finds the buyer."

Alcohol provides a good illustration. In south Alabama a small oil jobber or a filling station operator might have need for about 10 gallons in the course of a winter. If he buys a single drum it costs him around 60 cents a gallon or $33. After selling 10 gallons he has to hold over 45 gallons of it, worth $27.

The interest on the investment, figured at 8 per cent, will exceed $2 and if he keeps the drum a year he has to buy it which means an outlay of $6 more, making the drum of alcohol cost $41 which is nearly 75 cents a gallon. Rather than bother with it and tie up his money, most any small operator would give 90 cents a gallon for the alcohol in cans, especially if he gets it from Interstate with the understanding that the company will take the remains of the broken case off his hands in the spring. And that is the usual understanding.

Axle grease still meets a ready demand in Alabama. Sawmills use it to lubricate their wagons, the carriages of the sawmill itself, and log skids. They even use it to make a complete covering for woodsmen's saws when they are stored away in slack times. There is a fairly consistent demand for cutting oil too, but a five-gallon can will run a small machine shop a long time.

There are a number of uses for crude oil, especially in rural sections, other than to provide ointment for the hides of elephants in some vagrant menageries. It is a vermicide of merit for certain live stock. However, one of Mr. Britton's biggest crude oil sales was to the circus a few months ago that paid 25 cents a gallon for seven barrels—five used in Montgomery and two shipped by rail to the next place of showing. It takes five gallons to cover the average elephant.

OCCASIONALLY Mr. Britton is confronted with a lubrication problem where graphite grease is required, however the demand for it is light. Pine oil is not a petroleum product at all but people who want it usually go to an oil man for it and it fits itself conveniently into a general oil line.

Soaps constitute a more varied line than greases and Mr. Britton does not pretend to carry anything but industrial soaps, however there are some half-dozen varieties in the warehouse, hard soap and liquid soap and several of intermediate viscosity. Garages and automobile laundries (which are often customers for gasoline and motor oils) are good soap prospects.

Solvents and cleaners' naphthas have proven easiest of all the products

to advertise. Mr. Britton has made it a rule to buy the best solvents he could hear about regardless of price or distance he had to ship. The result is that a demand has grown up for Interstate Oil Co's. solvents even among customers who are too far away for the company to serve profitably.

IT IS almost a weekly occurrence for the truck of some dry cleaner in a distant town to stop in front of Interstate's bulk plant for a drum or two of solvent. The day the writer visited the plant a small truck used by a cleaner in Florila, Ala., for delivering clothes came to Montgomery for two drums. Florila is on the Florida line, 100 miles away.

Naturally there are a number of small tanks and compartment tanks in Mr. Britton's bulk plant. They are necessary where so large a variety of products is carried. Only recently five 4000-gallon upright tanks were mounted on steel supports just outside the warehouse, five feet above the level of the warehouse floor. One of them is for tractor oil, one for spindle oil, one for red Engine oil and two for Quaker State Motor Oil.

(Interstate Oil Co. is Quaker State distributor for South Alabama and is one of the two jobbers in the United States who buy it in tank car lots.)

Steam cylinder oil and transmission lubricant can not be classified as unusual specialties, but it is unusual to find a jobber buying them in tank car lots as Mr. Britton does. No special storage tanks are maintained for these products. They are unloaded direct from tank car to drums.

When the railroad delivers a car of cylinder oil, for instance, it is spotted carefully at a point on the company's side track close to the end of the warehouse. A pipe is thrust through the basement window and connected to the bottom outlet valve of the tank car. If it does not flow freely the oil in the car is heated with steam.

The flow (which is by gravity through the pipe ending in the basement) is controlled by a pinch cock at the end of a hose that forms an extension to the long pipe. Thus the unloading is done direct to barrels. One negro man regularly unloads a 6000-gallon car in a single day, not even using a helper to move his full drums out of the way.

Interstate Oil Co. operates no service stations and Mr. Britton says there is no intention of having any. The company operates ten tank trucks and two stake trucks. They penetrate seven districts of Standard Oil Co. of Kentucky's territory. None of the tank trucks handles lube oils exclusively. All the lubes are carried in cans and drums on the sides of tank trucks that carry gasoline and kerosene, serving rural stations, saw mills, cotton gins and the like.

ALL of the company's outlet being to big consumers or through dealers, it has a large amount of outstanding equipment of one sort and another. This equipment is kept in the best of condition all the time as a matter of merchandising expediency. A small but thoroughly modern machine shop is maintained on the same lot with the bulk station. It employs a machinist and two helpers.

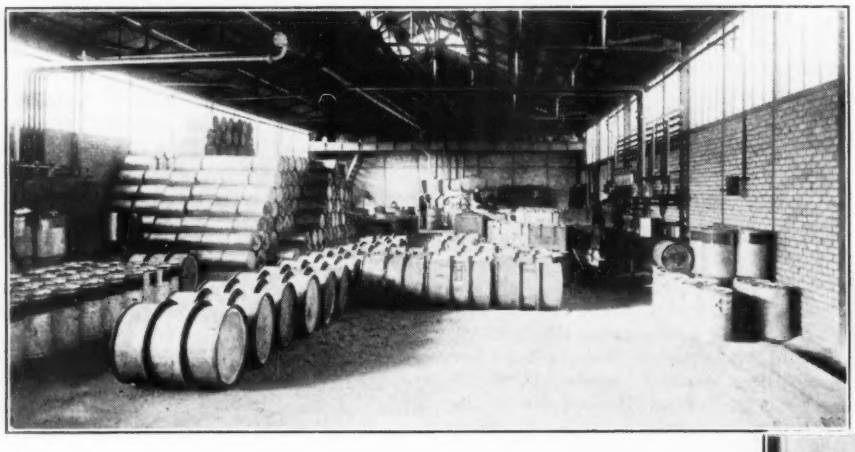
This shop keeps the company's dozen trucks and the salesmen's cars in good condition, but that is not half its work. Most of it is to keep pump and tank equipment in good working order.

ANY time a dealer turns back a piece of equipment to the company, be it a gasoline pump, a motor oil tank and pump unit or a kerosene tank and pump from a rural merchant, it goes to the machine shop direct. As soon as it arrives the workmen set about to put it in condition. They either junk it immediately and salvage the good parts of it, or they restore it to perfect working order.

If machines are worth repairing, they are taken apart, wiped clean inside and out, given new valves and all worn parts replaced with good ones, and finally painted. After the paint has dried the whole job is tested and polished and put away. The job is as thorough as "rebuilding" an old typewriter, or "reconditioning" a used automobile. Although the model may be an old one, the individual machine is as good as new.

The basement where these reconditioned oil tanks and pumps are stored

A French Light Oil Barreling Plant



Below: Closeup view of the barrel-filling equipment and layout at the plant of the Compagnie Industrielle Maritime, Havre, France

Above: Good plant design and modern equipment feature the petroleum warehousing plant of the Compagnie Industrielle Maritime at Havre, France, of which this is an interior view

and a corner of the warehouse floor where gasoline pumps are set away, look somewhat like an equipment show at an oil jobbers' convention. A new customer who requires a piece of vending equipment often is taken to these exhibits and allowed to select what he wants from the complete array.

Salvaged pieces from junked equipment are stored away in drawers and on shelves on the walls of the workshop. Cash received from the sale of old iron and brass goes to the workmen in the shop without accounting. This is to encourage them to keep the place clear of nondescript scraps.

Gasoline tanks from service stations are handled in much the same way. A gasoline tank that has been buried always looks bad when exhumed. If a new dealer gets one in that condition he often takes occasion to complain that it leaks, and sometimes asks for an allowance or even a new tank after the used one has been installed. Interstate Oil Co. forestalls all this.

Every tank that is taken out of the ground is brought direct to the bulk plant. There it is hosed off outside, washed clean inside. All pipe connections are removed and the holes plugged. Then the tank is thoroughly tested for leaks. When proven in good condition it is given a thorough covering of paint and stored on a platform in the warehouse yard. Only the cleaned and tested ones are ever offered to customers. Frequently they never suspect they have been used by somebody else.

Drums returning from dealers or other jobbers are cleaned and painted and stored neatly in the basement as fast as possible after they get back. Before they are cleaned they are stacked in a neat pile in the station yard. To make every full drum as neat and clean a looking package as possible when delivered to a customer, the outside of the barrel only is painted while it is empty. After it has been filled the ends are painted and stenciled in accordance with the contents.

Griscom-Russell Co., 285 Madison Ave., New York, has off the press bulletin 1651 on shell and tube heat transfer apparatus for refineries and gasoline plants. The bulletin describes the method of operation and special features of various types of subcooling and partial condensers, heat exchangers, coolers and heaters, and their applications in refineries and natural gasoline plants.

The bulletin also contains a complete tabulation of condensing, cooling, heating and other heat transfer processes with a list of apparatus adapted to each process; diagrams showing the construction of various types of devices, and a number of charts and tables.

1879 GOLDEN ANNIVERSARY YEAR 1929

before you buy

100% Pennsylvania Motor Oils

— read this

Sell a 100% Pennsylvania Motor Oil—YES—and build up your business with FREEDOM 100% Pennsylvania Motor Oils—made from 460-470 flash Bright Stock (Sharples process) and 100% Pennsylvania Crude high flash Neutrals.

The former is made in the Coraopolis plant, the latter in the Freedom plant, of The FREEDOM Oil Works Company—an organization celebrating its fiftieth year of specialization in the refining of 100% Pennsylvania Crude, its Golden Anniversary of fair dealing.

Deliveries can be made in tank cars, compartment tank cars, barrels, or drums. Write for quotations.

Guaranteed 100% PURE PENNSYLVANIA OIL

Permit No. 31

Also available for immediate shipment

460-470 flash, minimum 85 Visc., low cold test Bright Stock (Sharples process).

FREEDOM 100% Pennsylvania Crude high flash Neutrals.

100% Pennsylvania Motor Oils, blended to your own specifications from FREEDOM 460-470 Bright Stock and FREEDOM 100% Pennsylvania Crude high flash Neutrals.

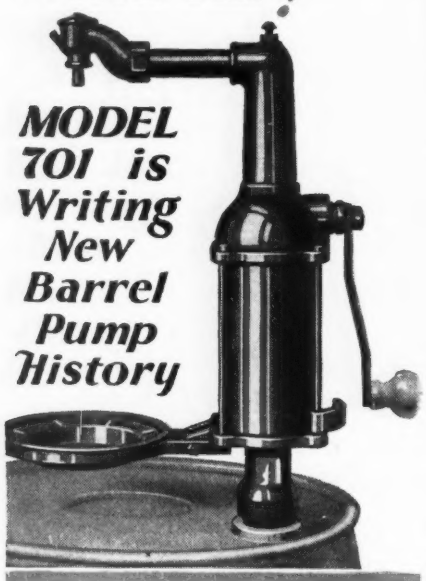
FREEDOM 600 Steam Refined.

FREEDOM filtered low end point Kerosene.

THE FREEDOM OIL WORKS COMPANY
Freedom, Penna.
Established 1879
Refineries at Freedom and Coraopolis, Pennsylvania

FREEDOM

The Pump That "OUT-VALUES" Them All!



MODEL 701 is Writing New Barrel Pump History

Model 701 is a typical Bennett PRECISION BUILT Barrel Pump—designed to meet today's lube dispensing needs efficiently and most economically. Square rack and pinion are of identical construction with those of regular Bennett Barrel Pump line—fine piston cup leather is used—four tie rods are employed—the same careful machining and careful packing are employed—the handle has the same stout lock link found on the finest Bennett Barrel Pumps.

Has removable non-return drip pan. Fits 1½" and 2" drum openings. Set screw at the top makes the pump a measuring device. A pump that sets new standards for quality-value.

Write for Bulletin

BENNETT PUMPS CORP., Muskegon, Mich.
SERVICE STATION EQUIPMENT CO., Ltd., Toronto & Winnipeg
REPUBLIC STEEL PACKAGE CO. OF CALIF., Richmond, Calif.
BENNETT EXPORT CORP., 32 Broadway, New York

MODEL 506. Non-visible pump with automatic self-closing return drain arm.
MODEL 505. Non-visible pump with open return drain pan. Screen in return drain pan with dust-proof cover attached.

(All models can be supplied with meter or to take a meter)

MODEL 80. Visible pump, with automatic self-closing return drain arm tube. Nozzle encloses arm and eliminates dust, rain, etc., from entering barrel.
MODEL 8. Visible pump, with open return drain pan with screen, and drain pan cover.

Bennett Pumps Corporation
QUALITY BUILT
Bennett
Dispensing Equipment
FOR OIL MARKETERS
Muskegon, Michigan.
Symbol of Quality

ON THE LAZY BENCH

National Petroleum News

It was after the opera. The expensively dressed woman approached the broad shouldered man.

"If I am not mistaken," she said, "I have the honor of speaking to the renowned basso, have I not?"

He felt flattered. "And what can I do for you, madame?" he asked.

"I can't find my car," she answered pleasantly. "Would you be so kind as to call out 'Charlie' at the top of your voice?"

—Magnolia Oil News

* * *

Traveler: "Porter, I want to be called at 5 o'clock in the morning."

Porter: "Boss, Ah guess you-all isn't acquainted with these heah mode'n 'nventions. See dis heah button, heah? Well, when you-all wants to be called, you jest presses dat button an' we comes an' calls you."

—Skelly News

* * *

The meanest man in the world is the guy who proposed to an old maid over the telephone and, after she had accepted him, told her he had the wrong number.

—Barnsdall

* * *

Here is an epitaph that was recently discovered on an old tombstone near Wetumpka, Alabama:

"Here lies the body of Solomon Peas,
Under the daisies and under the trees.
Peas is not here—only the pod,
Peas shelled out; went home to God."

—Pure Oil News

* * *

Spiritualist: "Ah! I hear the knocking of your late wife."

Patron. "That so? Who's she knocking now?"

—The Oil Can

* * *

Tramp: Have you a good square meal for a hungry man, missus?

Lady: Yes, and he'll be home presently, so you'd better go.

—Union Oil Bulletin

* * *

Father (speaking to prospective son-in-law): "The man who gets my daughter will get a prize."

Prospect: "May I see it, please?"

—Doherty News

* * *

Pat—"I say, doctor, did you ever doctor another doctor?"

Doc—"Oh, yes, very often."

Pat—"Well, tell me this: Does a doctor doctor a doctor the way the doctored doctor wants to be doctored, or does the doctor doing the doctoring doctor the other doctor in his own way?"

—Skelly News

* * *

Tommy was walking home, very slowly and much after supper time.

"Tommy," asked a friend of the family, "aren't you afraid you'll be late for supper?"

"Nope," said Tommy. "I've got the meat."

—Barnsdall

* * *

Both Embarrassed

Biggs: "I called on Mabel last night and I wasn't any more than inside the house before her mother asked me my intentions."

Jiggs: "That must have been embarrassing."

Biggs: "Yes, but that's not the worst of it. Mabel called from upstairs and said, 'That isn't the one, mother'."

—Magnolia Oil News

By Roy R. Corey

* * *

"The prisoner will please tell the jury how the accident happened."

"Well, your Honor, my wife fell asleep in the back seat."

—Skelly News

* * *

Which reminds us of the college boy who couldn't get his slicker on,

because he had a book in his hand and it wouldn't go through the sleeve.

—Union Oil Bulletin

* * *

Counsel for the prosecution was examining the defendant.

"Exactly how far is it between the two towns?" he asked.

"About four miles as the cry flows," replied the witness.

"You mean 'as the flow cries,'" corrected the attorney.

The judge leaned forward helpfully.

"No," said he, "he means 'as the fly crows.'"

And they all looked at each other feeling that something was wrong somewhere.

—Skelly News

* * *

Mary was asked how she liked the service.

Mary: "I didn't like it much. It was too long. The bishop preached. I like the dean better than I do the bishop."

Mother: "Why, Mary, why do you like the dean better?"

Mary: "Well, the dean says, 'Finally' and stops; but the bishop says 'Lastly'—and he lasts."

—The Sohioan

* * *

"Why are you so pensive?" he asked.

"I'm not pensive," she replied.

"But you haven't said a word for twenty minutes."

"Well, I didn't have anything to say."

"Don't you ever say anything when you have nothing to say?"

"No."

"Well then, will you be my wife?"

—Magnolia Oil News

* * *

Rastus in undertone to Sambo—"Time was when Ah could whip de old lady in a ruff and tumble fight."

Old Lady, overhearing—"You's a black liah—time nebbah wuz—nebbah ain't—an' ain't nebbah will be."

—Pure Oil News

* * *

Pioneer Stock

"Have you lived in this town many years?"

"Yep—I been here longer'n the steel pens down to the postoffice."

—Harvester World

* * *

"Mama, why does the furnace make daddy shiver and make funny faces and hiccup when he comes up from the cellar?"

—Barnsdall

* * *

A Joke

When the two little sisters had been informed that twin brothers had been added to the family, one of them said:

"Well, that's sure a joke on us, we prayed for a new baby brother, but we thought we were talking about the same one."

—The Pure Oil News

What Makes the Motorist Stop at Your Station?
Is It Service or Confidence or Both?

This is an advertisment that should be acted---as well as read.
So--- let's slip into the front seat with Mr. Motorist--- and speed down your street.
He needs gas and oil---and says so. All right! There's a station---let's turn in No---not so good, he says. There's another! Nope--- kept him waiting once. How about this one? No---let's keep on, he says, there's a better one just ahead.

Then he turns into your station. Let's ask him why?

"Well", he says. "Service is one reason and then, too, your equipment is so up-to-date. Your spic and span oil dispensers remind me that I'd better have oil. Their businesslike looks give me CONFIDENCE in your place.

He didn't know the name of the good looking, efficient equipment. He was sold on its FACE VALUE. The name WIZARD is for you to remember---and if your station isn't equipped with WIZARD UNITS---drop us a line. We'll give you facts on WIZARD face-value merchandising that will open your eyes to the extra sales and extra profits it makes possible.

THE
NATIONAL STEEL BARREL CO.
3860 East 91st St. Cleveland Ohio
FACTORIES
Cleveland New Orleans

Export Department
R. Meyer, 487 Broadway
New York, U. S. A.
Cables - Rymer - New York
Codes - A-B-C-5th Ed. Bentley's

WIZARD
FOR PROFIT
OIL - GREASE - KEROSENE - ALCOHOL - EQUIPMENT AND STEEL BARRELS

Veribrite SIGNS

PORCELAIN ENAMELED IRON

Long Life
Never Fade
Cost Less
Per Year

COLORS GUARANTEED 10 YEARS

Here is a source of supply you can depend on. Make a note of it and place in your files for quick reference. Please send sample or specifications for prices.

VERIBRITE SIGNS
Division of
GENERAL PORCELAIN ENAMELING & MANUFACTURING CO.
4105 West Parker Avenue Chicago, Ill.

This picture illustrates how the Sherrill Oil Co. of Pensacola, Fla., helps dealers to improve their places of business. The sheet-iron garage is old. The canopy, making it a service station, is new—built on the "Building and Loan Plan"

Building and Loan Department Opened By Oil Man for His Dealers

By Ward K. Halbert
N. P. N. STAFF WRITER

PENSACOLA

CONSTRUCTION of homes on the "Building and Loan Plan" is an old and well-understood principle of financing but it waited for J. H. Sherrill of the Sherrill Oil Co., Pensacola, Fla., to introduce it into the oil business. He has used it for several years in the construction of filling stations. A department of the Sherrill Oil Co. serves in the capacity of a B. & L. company and the customers buy the buildings and use them.

One of the advantageous results of the financing plan is that Sherrill Oil Co. which is reputed to be the biggest Independent jobber in Florida, does not operate a single service station and has no retail marketing department. This relieves the company of a big item of office overhead expense, although Sherrill's products are sold throughout the north end of Florida and south Alabama, through filling stations.

Another more or less indirect result of the plan is that Sherrill Oil Co. does not have a single resale agent who enjoys any price concession whatever, below the official dealers' price in Standard Oil Co. of Kentucky territory. None of the reselling customers who have acquired stations through the agency of the B. & L. department can change their source of supply until the expiration of a 10-year lease.

Although it was purely a building program, it has not resulted in an increase in the number of gasoline outlets. The only people who were given the opportunity of taking advantage of the building and loan plan were in the gasoline retailing business already. The result has been to improve the quality of the outlets and not to multiply them.

Mr. Sherrill conceived the idea about four years ago. It was then that he began to recognize the absolute necessity of having controlled outlets for his products. Bigger companies than Sherrill were out bidding for dealers in stiff competition. Not all of them were giving outright price concessions but nearly all were making better and better propositions to dealers, with the result that dealers' margins did get wider.

In some sections of the country dealers' margins became so liberal that it was cheaper to build a station and operate it with salaried employees than to serve a retailer on the basis competition demanded. A great many of the bigger and richer companies did put on a station-building campaign, but Mr. Sherrill could not do that. In the first place he says his company did not have the cash needed to cover its territory with service stations and, if it had done so, they would not have been profitable. It is not that kind of a territory.

A good share of the gallonage in this section moves through country stores or country garages in towns so small that no specialty is profitable. In such communities a filling station, operating exclusively as such, would not pay. Some other line of merchandise is necessary to compensate the operator for his time, even if the investment in a building is small. So there was nothing for Sherrill Oil Co. to do but "sew up" the dealers it already had.

Here is how it was done:

GOING about over the territory, the company's salesmen and other representatives approached the dealers in a way to appeal to their pride and ambition. At Tom Watson's country store which had a high front porch, dating back to the "horse and buggy days," the salesman said:

"Mr. Watson, why don't you remodel this front end and make a service station out of it? You could in-set the front a little and have a couple of show windows. And you could pave the space between your door and the highway. A canopy would look nice with a gasoline pump right in the middle of the front, next to the road. It would bring you more oil business and help the trade at the store too."

Mr. Watson's reply was to the effect that such improvements cost a

lot of money; more than he had to spend at that time. Although he believed it would pay, he just could not afford it. Most of the rural merchants and garagemen seemed to be in about the same position. Some of them suggested that the Sherrill Oil Co. might help out in making the improvements.

"OF COURSE, Mr. Watson, the Sherrill Oil Co. can't remodel the front of the store for you. I can't say what they might do toward helping out," the salesman said. "But you can never tell which way a dillpickle will squirt 'til you squeeze it. I can take it up with the office and see. We have a record of your gallonage. You figure out what the improvements you want would cost so we will have something to work on, and I will tell you in a few days what the company will do."

The result was that Mr. Watson leased his establishment to the Sherrill Oil Co. for ten years, in consideration of a given amount of money to be spent in improving it at once. That was effected with a legal instrument from Mr. Watson to the company.

After that deal was closed, the company leased the establishment back to Mr. Watson for 10 years, at so much per month, in consideration of his buying all his gasoline and other oil products from Sherrill Oil Co. for that period of time. This was effected with a separate instrument from the company to Mr. Watson.

From a legal standpoint the procedure was very simple. Mr. Watson got a better looking store. Sherrill Oil Co. got a better looking station. Both enjoyed an improved business as a result. The oil company put up the money but will get it back with interest from Mr. Watson in ten years. In the meantime the outlet is firmly held.

More than 200 dealers are controlled by the company on this basis. None has borrowed less than $150 and none more than $5000. The average falls between $600 and $700. There are a few exceptions to the rule that these dealers must handle all of the Sherrill Oil Co. line and nothing else. Most of them are "100 per cent and exclusive" but some are allowed to stock another motor oil. Each transaction was an individual case.

To illustrate how the transactions figure out: Suppose Mr. Watson needed $1000 to remodel his store front. He is allowed to take it and pay it back at the rate of $12.50 a month for ten years, which totals $1500. The $500 pays interest on the money for ten years at 8 per cent, and also pays for fire insurance on the property involved for the whole time.

Of course the item of interest is not constant because the principal sum decreases with each monthly payment. The insurance item is small but nevertheless constant. All this is figured down to a uniform monthly payment for the dealer's convenience. Actually, most of the first month's payment is interest and most of the last month's payment will be principal. The uniform monthly payment also lightens the oil company's office routine. Collections of installments are made by the company's agent in the community where the dealer is—the same man who serves his station with gasoline and oil.

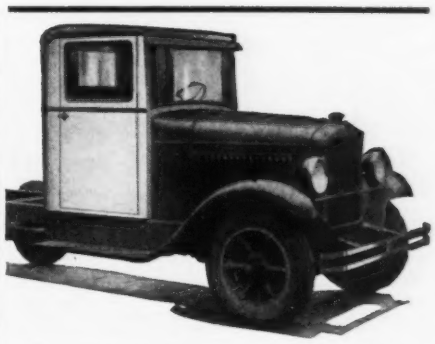
No dealer's credit arrangement is changed by the fact that he has bought some improvements through the company's B. & L. department. Credit is understood on both sides to be entirely a separate matter. Some of these dealers buy on consignment, some pay cash and others enjoy 30-day terms. Their treatment is like that accorded to other customers in that respect.

"In itself, it has not been especially profitable," Mr. Sherrill says, "But it met the company's need for controlled outlets when there seemed no other way to get them." Incidentally, when a dealer enters into an arrangement like this with the Sherrill Oil Co., he submits voluntarily to certain forms of supervision from the oil company. The company's traveling representative has a great deal of authority to prescribe how the company's goods shall be merchandised, and the company retails absolute control of retail prices.

Just now the price structure in Pensacola and northern Florida generally is normal and like the rest of Standard Oil Co. of Kentucky's territory would be if the competition was in line. In Pensacola the retail price is 25 cents; the tank wagon price is 23 cents; retailers get a special discount of 2 cents making an official margin of 4 cents.

PURCHASERS of small quantities of gasoline from tank truck, pay the posted tank wagon price, 23 cents. Resale agents have a net delivered price of 21 cents. Large purchasers of gasoline through filling stations enjoy a so-called "fleet price" which is the same as the tank wagon price, 23 cents.

Small retailers, in a few cases probably, give secret prices to their friends in the trade. But the major operators are not doing it and it is not much of an annoyance where it takes place. However, if by such secret concessions some dealers get into a price war, the jobbers ordinarily refuse them protection against prices of their own making.



A smart cab for smart trucks

This is the day of smartness . . . in trucks as well as clothes. Make your trucks smarter looking with the new Highland C.O. 55 Cab. Notice its clean cut lines, military front, and well rounded corners extending up into the roof. All exterior surfaces are metal covered—no wood is exposed.

This cab embodies the rugged strength and sound construction that exacting service and economical operation require. Like all Highland Cabs it has the Highland Rocker Sill Mounting, an original Highland feature.

Made in three sizes to fit all trucks and is standard equipment on most of the well known makes. Specify the Highland C.O. 55 in your truck contract and get a custom built job at a production price. See it at the Highland Distributor near you.

The Highland Body Manufacturing Co.
430 Elmwood Place Cincinnati, Ohio

HIGHLAND
FOR CABS

FARM PUMPS

of Quality

at prices you can afford to install them at.

We manufacture all types of farm gasoline and kerosene outfits to meet every one's need and purse.

Write for our catalogue and prices on farm pumps and pump and tank outfits.

Type "A" shown

$15.00
Complete

Dept. D, VOLCKER MFG. CO.
Huntington Indiana

"THE man who does not devote a part of his spare time to study, will continue to turn the grindstone while the other fellow sharpens his ax."

The OIL MAN'S BOOKSHELF will help you select books you can read and study with the greatest profit, whether you are in the refining, producing, natural gasoline or marketing divisions of the industry.

Below are some books that have been highly recommended by oil men.

AMERICAN FUELS

by

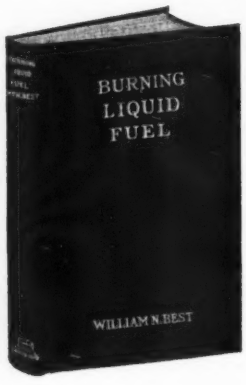
Bacon and Hamor

"American Fuels" comes in two volumes, a total of 1245 pages and 382 illustrations.

The work aims to assist the manufacturer, engineer and chemist in deciding upon the most suitable fuel to use to get the highest efficiency in plant operation. It gives details of equipment and definite advice and information not obtainable in book form before.

Some of the main topics covered are: Availability, Chemistry, Properties, Production of fuels—Combustion engineering—Coking, Water gas, Producer gas—Fuel oil—Powdered coal—Analysis, testing—Economic use of fuels—Advantages of specific fuels—Relative costs of fuels—Fuel conservation.

Two volumes—1245 pages—$12.



BURNING LIQUID FUEL is a practical treatise on perfect combustion of oils and tars: gives analyses, calorific values and heating temperatures of various gravities; information on design and proper installation of equipment for all classes of service.

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National Petroleum News,
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- ☐ *American Fuels—$12*
- ☐ *Burning Liquid Fuel—$4*
- ☐ *Law of Oil & Gas—$20*

NAME.....

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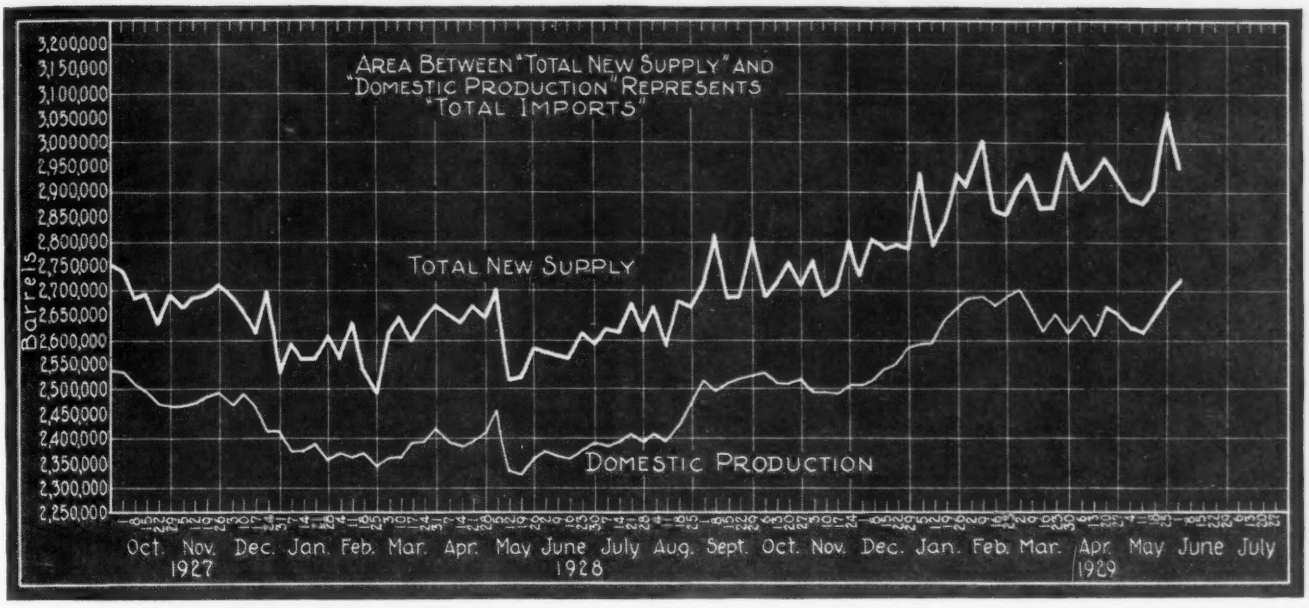
.....

.....

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	June 1	May 25
Production east of Rockies	**1,921,450**	**1,921,350**
Increase		**100**
Total production in U. S.	**2,711,650**	**2,690,350**
Increase		**21,300**
Crude oil imports	**238,714**	**380,857**
Decrease		**142,143**
Total Crude Supply	**2,950,364**	**3,071,207**
Decrease		**120,843**

OKLAHOMA

	June 1	May 25
Allen Dome	23,850	23,800
Blackwell	3,850	3,800
Bowlegs	37,600	37,000
Braman	3,700	3,600
Bristow-Slick	19,400	19,450
Burbank	20,300	20,450
Cromwell	8,200	8,200
Cushing	19,600	19,850
Davenport	1,500	1,450
Duncan District	6,750	6,700
Earlsboro	59,150	61,650
Fox	1,400	1,400
Garber	5,700	5,700
Graham	4,350	4,400
Healdton	12,900	12,900
Hewitt	8,350	8,350
Hubbard	1,800	1,900
Little River	79,000	77,900
Logan County	14,150	13,000
Maud	28,650	29,750
Mission	44,150	45,150
North Okmulgee	13,000	13,100
Oklahoma City	2,700	2,850
Osage (outside Burbank	25,800	25,900
Papoose	3,300	3,300
Pearson	1,600	1,600
St. Louis	87,950	91,800
Scholem-Alechem	13,050	13,200
Searight	12,550	12,600
Seminole	36,350	36,650
South Okmulgee	7,800	7,900
Thomas	900	950
Tonkawa	10,250	10,100
Wewoka	4,900	4,900
Yale-Jennings	6,900	6,950
Others	55,450	52,950
Total, Oklahoma	686,850	691,150
Decrease		4,300

KANSAS

Augusta-Fox-Bush	3,000	3,000
Churchill	6,600	6,950
El Dorado-Towanda	12,850	12,800
Florence-Covert	950	1,000
Greenwood County	21,000	20,800
Oxford	4,700	4,900
Peabody-Elbing	2,700	2,700
Rainbow Bend	1,050	1,000
Russell	3,450	3,150
Sedgwick County	32,150	30,650
Others	29,700	29,900
Total, Kansas	118,150	116,850
Increase		1,300

NORTH LOUISIANA

Bellevue	600	600
Caddo, light	8,100	8,300
Caddo, heavy	3,250	3,300
Cotton Valley	2,700	2,700
De Soto, Red River	3,900	3,800
Elm Grove	600	600
Haynesville	5,300	5,300
Homer	4,100	4,200
Pleasant Hill	500	500
Urania	5,850	5,850
Others	250	250
Total, North Louisiana	35,150	35,400
Decrease		250

ARKANSAS

Champagnolle	8,350	8,350
El Dorado	4,700	4,750
Lisbon	1,350	1,350
Nevada	1,100	1,050
Smackover, light	6,050	6,100
Smackover, heavy	48,800	48,800
Stephens	1,000	1,050
Others	100	100
Total, Arkansas	71,450	71,550
Decrease		100

TEXAS (Outside Gulf Coast)

Panhandle District

Carson County	6,900	6,600
Gray County	40,600	29,450
Hutchinson County	26,000	25,100
Wheeler County	900	650
Others	1,800	2,000
Total, Panhandle Texas	76,200	63,800
Increase		12,400

North Texas

Archer County	17,100	16,950
Burkburnett	9,100	9,050
Electro	12,400	12,300
Iowa Park and K. M. A.	5,300	5,400
Montague-Cooke	12,900	13,200
Wilbarger	26,500	26,350
Others	650	650
Total, North Texas	83,950	83,900
Increase		50

West Central Texas

Brown County	7,800	7,950
Callahan County	3,700	3,800
Coleman County	3,850	3,750
Eastland-Desdemona	6,500	6,400
Jack County	2,600	2,450
Palo Pinto County	350	400
Shackelford County	13,100	13,250
Stephens County	6,500	6,400
Throckmorton County	650	700
Young County	6,900	7,000
Others	700	700
Total, West Central Texas	52,650	52,800
Decrease		150

West Texas

	June 1	May 25
Crane and Upton Counties	47,400	47,500
Crockett County	2,200	2,100
Howard County	44,600	42,400
Jones County	4,200	4,250
Mitchell and Scurry Counties	2,750	2,750
Pecos County	101,400	106,550
Reagan County	18,400	18,400
Winkler County	142,700	144,300
Others	1,900	1,950
Total, West Texas	365,550	370,200
Decrease		4,650

East Central Texas

Boggy Creek	2,700	2,750
Corsicana- Powell	8,200	8,300
Currie	400	400
Mexia	6,000	6,100
Nigger Creek	600	600
Richland	400	400
Wortham	1,200	1,250
Total, East Central Texas	19,500	19,800
Decrease		300

Southwest Texas

Dale	500	550
Laredo District	11,500	11,600
Luling	11,850	12,000
Lytton Springs	900	950
Salt Flat	47,900	48,900
Somerset	1,700	1,800
Others	4,000	4,100
Total, Southwest Texas	78,350	79,900
Decrease		1,550
Total, Texas (Outside Gulf Coast)	676,200	670,400
Increase		5,800

GULF COAST

Coastal Texas

Barbers Hill	8,400	7,050
Batson	1,400	1,400
Big Creek	1,800	2,100
Blue Ridge	3,900	3,400
Boling	1,800	1,700
Damon Mound	700	750
Goose Creek	5,900	6,000
Hull	9,100	8,700
Humble	6,750	6,900
Orange County	3,100	2,950
Pierce Junction	15,800	19,300
Raccoon Bend	5,300	4,550
Somerville	2,900	2,900
Saratoga	800	900
Sour Lake	2,700	2,700
South Liberty	5,950	5,850
Spindletop	26,650	27,500
Sugarland	11,600	11,900
West Columbia	6,300	6,600
Others	4,250	4,650
Total, Coastal Texas	125,100	127,800
Decrease		2,700

Coastal Louisiana

East Hackberry	2,450	2,100
Edgerly	950	900
Evangeline	900	900
Old Hackberry	2,700	3,300
Lockport	4,050	4,000
Sorrento Dome	250	300
Sulphur Dome	2,100	3,000
Sweet Lake	500	500
Vinton	3,800	3,900
Others	800	800
Total, Coastal Louisiana	18,500	19,700
Decrease		1,200
Total Gulf Coast	143,600	147,500
Decrease		3,900

ROCKY MOUNTAIN

Wyoming

Big Muddy	2,300	2,300
Elk Basin	750	850
Grass Creek	2,450	2,300
Labarge	1,750	1,800
Lance Creek	250	250
Lost Soldier	3,200	3,400
Oregon Basin	3,800	3,250
Rock Creek	2,550	2,450
Salt Creek	32,200	32,100
Others	3,400	3,300
Total, Wyoming	52,650	52,000
Increase		650

Montana

Cat Creek	1,450	1,400
Pondera	3,350	3,100
Sunburst	6,850	6,850
Others	100	100
Total, Montana	11,750	11,450
Increase		300

Colorado

Florence	950	950
Fort Collins	2,500	2,400
Moffat (Craig)	1,800	1,650
Others	2,050	2,600
Total, Colorado	7,300	7,600
Decrease		300

New Mexico

Artesia	900	900
Hogback	250	350
Rattlesnake	1,050	800
Others	400	400
Total, New Mexico	2,600	2,450
Increase		150
Total, Rocky Mountain	74,300	73,500
Increase		800

CALIFORNIA

Domingues	9,500	9,500
Elwood-Goleta	27,600	28,400
Huntington Beach	41,500	42,300
Inglewood	23,500	23,500
Kettleman Hills	3,500	3,500
Long Beach	177,000	178,000
Midway-Sunset	64,000	64,000
Rosecrans	5,800	5,800
Santa Fe Springs	201,000	180,000
Seal Beach	40,000	41,000
Torrance	13,000	13,000
Ventura Avenue	60,000	57,000
Others	123,800	123,000
Total, California	790,200	769,000
Increase		21,200

EASTERN

(Including Ill., Ind., Ky., Ohio, W. Va., Pa. and N. Y.)	115,750	115,000
Increase		750

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended May 31 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended May 31
Plants Reporting	12	29	25	15	12	93
Da. Av. Cap. (Bbls.)	92,000	160,200	86,600	81,500	54,900	475,200
Da. Cracking Capacity	30,700	52,600	17,200	.....	22,700	123,200
Da. Av. Crude Runs	74,780 + 2.3	122,674 + 14.2	64,544 — 4.2	59,727 — 5.8	62,336 + 0.3	384,061 + 2.9
Da. Av. Other Oils	9,177 — 1.0	4,479 — 36.6	3,311 +294.6	1,163 — 21.5	2,807 — 35.5	20,937 — 9.0
GASOLINE—Gallons						
Stocks, May 24	33,085,000	72,569,000	17,376,000	7,863,000	12,517,000	143,410,000
Prod. 5-24 to 5-31	10,817,000 — 9.0	19,752,000 + 8.8	8,125,000 — 1.9	4,618,000 — 4.1	6,929,000 + 3.5	50,241,000 + 0.8
Ship. 5-24 to 5-31	12,128,000 + 2.7	22,295,000 + 11.6	8,825,000 + 6.0	3,928,000 — 23.2	7,331,000 + 29.2	54,507,000 + 7.1
Stocks, May 31	31,774,000 — 4.0	70,026,000 — 3.5	16,676,000 — 4.0	8,553,000 + 8.8	12,115,000 — 3.2	139,144,000 — 3.0
Ratio Sales to Prod.	112.1%	112.9%	108.6%	85.1%	105.8%	108.5%
KEROSENE—Gallons						
Stocks, May 24	6,997,000	6,992,000	2,674,000	53,000	519,000	17,235,000
Prod. 5-24 to 5-31	2,592,000 + 1.2	2,357,000 + 7.7	1,573,000 + 11.8	51,000 +537.5	274,000 + 72.3	6,847,000 + 8.3
Ship. 5-24 to 5-31	1,910,000 — 22.5	2,364,000 — 4.5	1,598,000 — 1.8	25,000 — 10.7	357,000 + 7.5	6,254,000 — 9.7
Stocks, May 31	7,679,000 + 9.7	6,985,000 — 0.1	2,649,000 — 0.9	79,000 + 49.1	436,000 — 16.0	17,828,000 + 3.4
Ratio Sales to Prod.	73.7%	100.3%	101.6%	49.0%	130.3%	91.3%
STOVE DISTILLATE—Gallons						
Stocks, May 24	1,467,000	3,189,000	244,000	198,000	64,000	5,162,000
Prod. 5-24 to 5-31	201,000 — 2.0	629,000 + 22.1	190,000 — 1.6	50,000 — 10.7	62,000 — 27.1	1,132,000 + 7.4
Ship. 5-24 to 5-31	103,000 — 21.4	274,000 — 22.8	91,000 — 45.5	87,000 — 53.0	56,000 — 40.4	611,000 — 34.4
Stocks, May 31	1,565,000 + 6.7	3,544,000 + 11.1	343,000 + 40.6	161,000 — 18.7	70,000 + 9.4	5,683,000 + 10.1
Ratio Sales to Prod.	51.2%	43.6%	47.9%	174.0%	90.3%	54.0%
GAS OIL—Gallons						
Stocks, May 24	10,765,000	21,505,000	5,790,000	18,107,000	6,258,000	62,425,000
Prod. 5-24 to 5-31	2,352,000 — 6.1	3,476,000 + 71.0	1,337,000 + 86.5	1,864,000 + 43.5	1,921,000 + 18.1	10,950,000 + 33.9
Ship. 5-24 to 5-31	2,056,000 + 25.0	1,145,000 — 7.7	2,484,000 + 42.6	1,434,000 — 1.3	2,313,000 + 44.7	9,432,000 + 22.8
Stocks, May 31	11,061,000 + 2.7	23,836,000 + 10.8	4,643,000 — 19.8	18,537,000 + 2.4	5,866,000 — 6.3	63,943,000 + 2.4
Ratio Sales to Prod.	87.4%	32.9%	185.8%	76.9%	120.4%	86.1%
FUEL OIL—Gallons						
Stocks, May 24	13,244,000	55,654,000	45,296,000	33,495,000	28,484,000	176,173,000
Prod. 5-24 to 5-31	6,257,000 + 3.5	9,255,000 + 14.1	7,821,000 — 7.9	9,425,000 — 8.2	8,725,000 — 4.7	41,483,000 — 1.4
Ship. 5-24 to 5-31	5,427,000 — 3.3	9,494,000 + 19.0	5,202,000 — 19.6	8,261,000 — 21.9	7,714,000 + 2.3	36,098,000 — 5.4
Stocks, May 31	14,074,000 + 6.3	55,415,000 — 0.4	47,915,000 + 5.8	34,659,000 + 3.5	29,495,000 + 3.5	181,558,000 + 3.1
Ratio Sales to Prod.	86.7%	102.6%	66.5%	87.6%	88.4%	87.0%

Gasoline Produced by Various Methods, Week Ended May 31

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	7,310,000	67.6	12,839,000	65.0	6,003,000	73.9	4,494,000	97.3	2,821,000	40.7	33,427,000	66.6
Cracked	3,133,000	29.0	5,837,000	29.6	1,494,000	18.4	.....	....	3,376,000	48.7	13,840,000	27.5
Natural	374,000	3.4	1,076,000	5.4	628,000	7.7	124,000	2.7	732,000	10.6	2,934,000	5.9
Total	10,817,000		19,752,000		8,125,000		4,618,000		6,929,000		50,241,000	

+ or — columns are % change over previous week.

Gasoline Shipments Increase in Mid-Continent

Staff Special—By Telegraph
TULSA, June 4

GASOLINE shipments from 93 Mid-Continent refineries that report their weekly operating statistics to NATIONAL PETROLEUM NEWS, increased 3,600,000 gallons in the week ended May 31. The total was 54,507,000 gallons.

Shipments increased in each district except West Texas where the loss was 23.2 per cent. This probably can be accounted for in part by the fact that the recent crude price raise in that district pu refiners on a less favorable operating basis. Reports are that both reporting and non-reporting refiners have curtailed crude runs somewhat.

Gasoline shipments increased 2.7 per cent in Kansas and 11.6 per cent in Oklahoma. Oklahoma refiners shared with the Louisiana and Arkansas refiners the largest increases

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended May 31. Change in stocks figured from May 3.

GASOLINE

	Gallons
Production	192,189,000
Shipments	194,282,000
Net change in stocks	—2,093,000
Ratio sales to production	101.1%

KEROSENE

Production	26,054,000
Shipments	26,179,000
Net change in stocks	—125,000
Ratio sales to production	100.5%

STOVE DISTILLATE

Production	4,554,000
Shipments	4,209,000
Net change in stocks	+345,000
Ratio sales to production	92.4%

GAS OIL

Production	38,581,000
Shipments	32,885,000
Net change in stocks	+5,696,000
Ratio sales to production	85.2%

FUEL OIL

Production	160,536,000
Shipments	142,764,000
Net change in stocks	+17,772,000
Ratio sales to production	88.9%

in business. Oklahoma refiners' increase amounted to 2,200,000 gallons while Louisiana-Arkansas group increased shipments 1,600,000 gallons. The loss in business in West Texas amounted to 1,000,000 gallons.

In the week ended Aug. 5, 1928, shipments from the Mid-Continent totaled 50,865,000 gallons. At that time the West Texas group was not included in the report. Deducting the total for that period from the total shipments the last week in May shows a difference of 3,642,000 gallons or slightly less than the 3,928,000 gallons shown for West Texas the last week.

Crude runs were up to 384,061 barrels daily average which is slightly over 80 per cent of the total still capacity shown for the reporting refiners. Crude charges a year ago totaled 326,499 barrels daily average. Deducting the 59,727 barrels daily average last week in West Texas from the total for the week leaves 324,334 barrels daily average which indicates virtually the same group of refiners in the two periods ran about the same amount of crude.

A year ago Kansas runs were almost 9000 barrels less than runs last week. Oklahoma runs were 8000 barrels less last week. North Texas runs due probably in part to heavy export orders were almost 20,000 barrels more than runs last week. Runs in Arkansas and Louisiana were little changed.

Gasoline production last week increased approximately 400,000 gallons over output of the week before. Stocks were reduced 4,200,000 gallons.

Kerosene production was increased 8.3 per cent. Shipments were lower by 9.7 per cent. Stocks were increased 3.4 per cent, or 500,000 gallons. Stocks were reduced in Oklahoma, North Texas and Louisiana-Arkansas.

Stove distillate production was virtually unchanged but shipments were off 300,000 gallons. Stocks were increased 520,000 gallons.

Gas oil stocks were reduced in North Texas and Louisiana-Arkansas but increased in the other districts. Production was increased 33 per cent, or 2,800,000 gallons, and shipments increased approximately 700,000 gallons. Stocks were increased 1,500,000 gallons.

Fuel oil stocks were increased 5,400,000 gallons with shipments off 5.4 per cent and production off only 1.4 per cent.

ENID, Okla.—R. H. Rowland, sales manager of the Bolene Refining Co., here, has appointed A. C. Cooley as sales representative in Minnesota.

ENID, Okla.—P. G. Maranville, assistant superintendent of the Bolene Refining Co. here, who has been in New York on company business, was expected back in Enid around June 1.

SELLING PEOPLE CLEAN AIR

OF COURSE you furnish air "free" for tire inflating, but the amount you furnish without cost is about 5 per cent of the total air you employ—the rest is paid for in the service charge you make for the jobs it is employed in. Air is now a cash register ringer because you use it in such jobs as greasing, engine cleaning, oiling, brake testing, car washing and painting.

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In Sizes and Capacities To Fit All Station Needs

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Connecting Rods—
Crosshead Pins—
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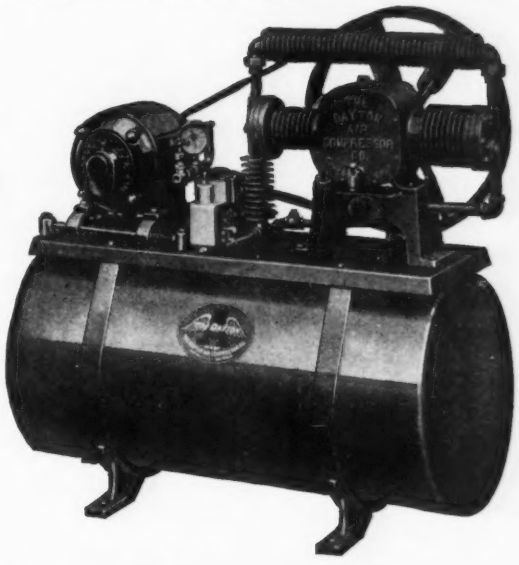
Bolts or other trouble creators.

This is the only two-stage compressor in the world of which this statement can be made.



Other types as low as $120.

Get Bulletins showing 30 models with capacities from 1 to 52 cubic ft. per minute.

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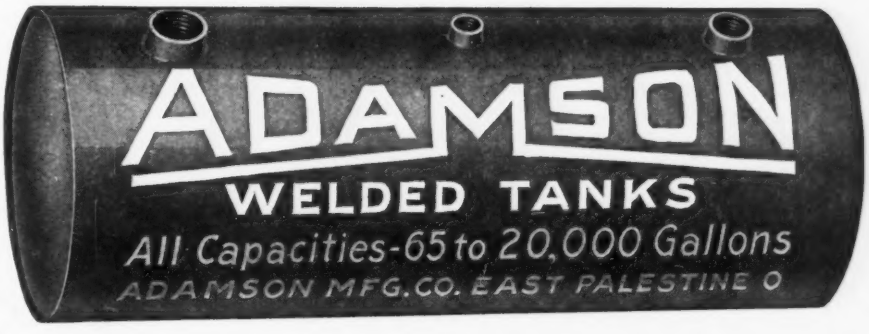
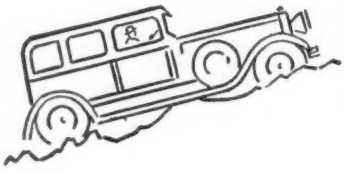


NATIONAL ADVERTISING

makes it easier for you to get NEW BUSINESS



A paved highway rides better than a dirt road! And there's just as much difference between selling nationally advertised products and selling products that are not advertised, as there is between sailing along a paved highway and plodding along a mud road.

NATIONALLY advertised gasoline and motor oil require less *selling* effort on the part of the dealer because the advertising has already done a share of the job! Advertising makes a motorist either ask for the product by name, or accept the product readily when you offer it to him.

If you carry nationally advertised products, new business is surer to come and easier to handle. It takes less time and effort to sell—gives you more time and opportunity to plan, profit, and build.

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Refinery - Tank Wagon Markets

National Petroleum News

Refinery Market Steady at New Levels After Crude and T.W. Changes

Staff Special
TULSA, June 1

THE Mid-Continent refinery market the last week of May recovered most of its equilibrium following the upsets occasioned from May 18 to 23 by crude and tank wagon price advances.

Gasoline demand from domestic trade was fair although not as large in volume as the previous week. Exporters remained virtually out of the market, but watched the Gulf prices closely.

Kerosenes improved in demand and price in all areas. Exporters however, were not interested in the commodity.

Gas oils reflected the crude advance by a noticeable increase in demand and a fractional increase in price.

Fuel oils showed no changes in prices during the week but buying was steady.

Neutral oils and cylinder stocks were quiet. Wax was unchanged.

Natural gasolines fluctuated slightly but lost some ground with buying lighter at the end of the month.

Gasolines

The price of 58-60 U. S. Motor gasoline in Oklahoma at the end of May was 9 to 9.25 cents a gallon, according to reports from a majority of refiners in the state. Other grades were up in line with U. S. Motor as far as price was concerned but demand for all grades was somewhat lighter than for the previous week.

Several factors undoubtedly contributed toward this lighter demand. The usual custom for jobbers is to keep stocks low at the end of the month and this situation prevailed the last week in May.

The crude oil price advances stimulated jobber buying, especially for storage. The first tank wagon advance by the Standard of Indiana also stimulated storage buying since jobbers were sufficiently well informed to believe a crude advance would follow. Buying was comparatively heavy between the crude advance of May 20 and the second tank wagon advance of May 23.

With storage tanks comparatively full, the end of the month in sight, and adverse weather conditions over much of the territory it was only natural to expect a lighter gasoline demand.

The 9.25 cent price on U. S. Motor represented an advance since May 25 of approximately 0.375 cent a gallon in Oklahoma.

North Texas refiners were slower to take advantage of the crude oil and tank wagon advance than were the Oklahoma and Kansas refiners. By June 1, however, a majority of north Texas refiners were quoting 9 cents for 58-60 U. S. Motor and had their prices on other grades in line.

West Texas refiners were quoting from 9 to 9.25 cents a gallon for U. S. Motor. A 9 cent quotation on a group 3 basis means a netback to them of 8.625 to 8.75 cents a gallon. Reports were that crude runs had been cut drastically in some districts.

Louisiana and Arkansas refiners advanced quotations in their differential territory in line with Oklahoma prices and were given considerable support by a tank wagon advance by Standard Oil Co. of Louisiana.

One large company in Oklahoma on May 31 sold 200 cars of 64-66, 400 e. p. gasoline, and 125 cars of 58-60 U. S. Motor gasoline at 9.75 and 9 cents respectively. Details of the sale were not revealed prior to close of business June 1.

Natural Gasolines

Demand for natural gasolines was comparatively quiet most of the week. Buying was in small lots except for a few 15 to 25 car sales. Lack of active buying kept prices fluctuating but the net change for the week was a loss of 0.125 to 0.25 cent a gallon.

Kerosenes

Demand for kerosenes improved somewhat the last week of May. Prices moved higher in all districts as refiners apparently sought to put a part of the increased manufacturing cost on kerosenes. Prevailing quotations in Oklahoma were 5.75 to 6 cents a gallon for 41-43 w. w. grade, but by June 1 a majority of refiners had advanced prices to 6.25 cents with one refiner reporting his quotation at 6.50 cents a gallon.

The Kansas refiners reported an improved demand due to the fact that farmers were getting into their fields in much of the middle west. Some of the buying the past week probably was done by jobbers in anticipation of an improved demand when the harvest starts in the next few weeks.

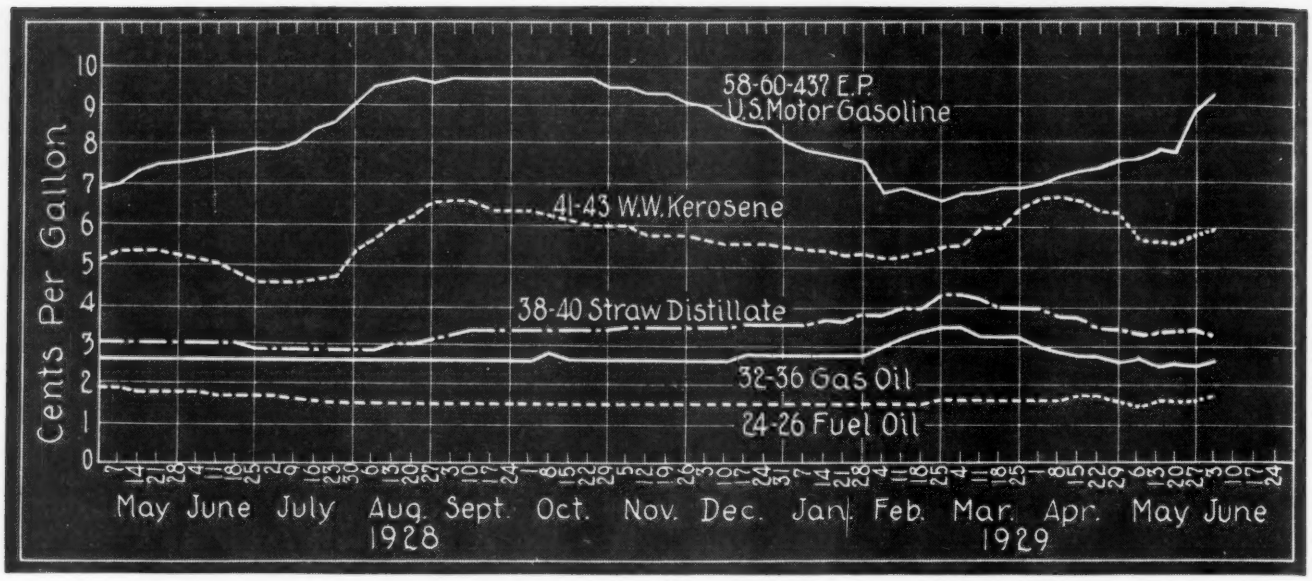
North Texas refiners reported they had curtailed kerosene production considerably and stocks consequently were in fair shape in that district. Virtually no kerosene is made in West Texas and the production of kerosene in Louisiana and Arkansas normally does not supply the demand in that district.

Gas Oils and Distillates

Uncracked gas oils have felt the crude advance probably as much as any other commodity as far as demand is concerned. Buyers have sought goods consistently the past week. It was sought in most cases by buyers who wanted the goods to crack. With prices of crude at present levels, and persistent rumors of still another advance in the near future, gas oil and distillates are attractive at present prices for cracking purposes.

Price of uncracked 32-36 gas oil

Current Prices of Principal Mid-Continent Refined Products


Cents Per Gallon
58-60-437 E.P. U.S. Motor Gasoline
41-43 W.W. Kerosene
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

Prices shown are on Group 3 basis and extended to date shown in Refinery Market Tables Section of this issue

June 1 was 2.50 to 2.75 cents with goods for spot shipment reported scarce. Cracked gas oil was moved mostly at 2.50 to 2.625 cents a gallon and was more easily obtainable.

Fuel Oils

With the winter demand for fuel oils gone the demand for gasolines has been slowly increasing with the result that some of the fuel which otherwise would go into storage undoubtedly will be cracked. Just as in the case of gas oils, the relative value of fuel oils for cracking as compared with the raw crude at present price levels probably will stimulate cracking considerably in the next few weeks.

Neutrals, Oils, Cylinder Stocks

Neutral oils and cylinder stocks have as yet experienced no reaction to the crude advance. Demand continued to be comparatively strong but prices were generally unchanged.

No Convention Exhibit, Institute Rules

NEW YORK, June 1.—The board of directors of the American Petroleum Institute formally has renewed its approval of the policy of maintaining the organization's time-honored tradition of "business only" in connection with the annual meeting.

For years the Institute has been besieged with requests for permission to operate equipment displays, shows and similar attractions at the meeting. Each time it has held strictly to tradition, ruling that the primary purpose of the gathering is the general discussion of the practical and technical business of producing, refining and distributing petroleum and its products and not the purchase of mechanical aids or demonstration or advertisement of the inventor's latest accomplishment.

It is pointed out that while an assemblage of several thousand representative oil men might afford a good opportunity for display of the latest in petroleum machinery and accessories, it long has been the belief of oil men and most of the manufacturers and distributors of equipment and supplies that such affairs detract from close attention to theoretical and practical problems of the industry required of those attending.

The importance of equipment to the industry is appreciated, and the Institute has formally endorsed the International Petroleum Exposition held annually in Tulsa, but it has always discouraged and disapproved efforts which in any way interfere with its own meetings.

Union Is Awarded Navy Gasoline Contract

LOS ANGELES, May 30.—Official announcement of the awards for the U. S. Navy Pacific Coast gasoline needs gave Union Oil Co. of California as the successful bidder. Prices of the bids were not disclosed.

Union Oil Co. will deliver 2,250,500 gallons of aviation gasoline—1,200,000 gallons to the naval air base at North Island, San Diego; 1,050,000 gallons via pipe lines and barges to San Pedro harbor, where it will be loaded onto the airplane carriers which fuel there, and 500 gallons at Los Angeles.

The motor gasoline contract calls for 4,131,500 gallons to be delivered as follows: 1,480,000 gallons at San Diego and vicinity, 1,105,000 gallons at San Pedro harbor, 1,263,500 gallons for San Francisco, 262,000 gallons for the Honolulu navy yard, and the remaining 21,000 gallons be delivered for various navy needs along the Coast.

Pipe Stills

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Houston, Texas.....1514 Petroleum Bldg.
Tulsa, Okla.....Philtower Bldg.
Los Angeles, Cal.....1031 So. Broadway

Chicago Resale Market

Post-Holiday Demand Bolsters Gasoline

Staff Special
CHICAGO, June 1

A DECIDEDLY bullish sentiment prevailed among sellers in the Chicago resale market as the last week of May ended. Several reasons were given by the trade to substantiate their optimism:

The weather was fine over the Memorial Day holiday and gasoline consumption throughout the middle west was reported close to record proportions. Temperatures were abnormally high and it was apparent the summer motoring season was getting into full swing. The tank wagon gasoline structure has advanced 2 cents within the past two weeks while the spot market has absorbed a little more than one-half of this, which leaves the jobber with a better working margin than for some time past.

The gasoline market was considerably more settled than it was last week and sellers were able to get a clearer line on market conditions. The week opened with a 0.25-cent advance in gasoline prices by most refiners. This brought the major refiner's prices for U. S. Motor gasoline up to 9.25 cents, while the bulk of the smaller refiners quoted 9 cents.

Conditions among the marketers were somewhat different because the month of May was almost gone and the bulk of gasoline in their possession had been purchased for delivery over this period. As a result there were numerous low quotations heard during the week, mostly ranging from 8.50 to 9 cents. The bulk of this goods was cleaned up by June 1 and on that date nearly all the carlot marketers asked 9 cents for U. S. Motor. Some goods, in transit, was still being offered at low prices at the close of business June 1.

On May 27 and 28 the bulk of sales of U. S. Motor gasoline were at 8.75 to 9.25 cents; on May 29 at 8.875 to 9.25 cents and on June 1 at 9 to 9.25 cents. There was little difference noted between the prices on U. S. Motor gasoline from the different refining centers and the above figures were on sales of gasoline from sources both in Oklahoma and outside.

Considerable interest was shown in gasoline for delivery over June. Quite a number of refiners refused to quote U. S. Motor over this period but were offering goods for delivery over the first half of the month. Sales to carlot marketers were reported mostly at 9 cents over the first half with a few at the same figure for delivery over the entire month. Sales to jobbers were mostly at 9.25 cents for the first half and at 9.50 cents for the remaining period. There was not a great deal of difference in prices between Oklahoma and Texas gasolines.

There was little change in the market for higher gravity gasolines this week. The 60-62, 437 e. p. grade was in fairly consistent demand but the other grades were quiet. Prices were generally unchanged over the week.

The 60-62, 437 e. p. closed June 1 at 9.125 to 9.375 cents after opening May 27 at 8.875 to 9.375 cents. Sales of 60-62, 400 e. p. were mostly at 9.25 to 9.50 cents and of 64-66, 375 e. p. gasoline at 9.50 to 9.75 cents.

The warmer weather prevailing over the week brought new life to the kerosene market although the demand was not very heavy. However, there was considerable more firmness in this product and prices were advanced 0.25 cent by several sellers. The week opened with 41-43 w. w. kerosene moved mostly at 5.625 to 5.75 cents and sales on May 28 were generally at the 5.75 cent figure. By May 29 quite a number of sellers had moved their price to 6 cents and the bulk of sales reported thereafter were at 5.75 to 6 cents.

. Varying reports were heard on gas and fuel oils. Most sellers reported demand at present was rather slack but some were figuring on higher prices and said their costs were advancing. Others said the present strength was only temporary and if buying did not improve prices would probably slip off. Demand was mostly from industrial concerns on past orders with little new buying reported. Distillates were dull as the demand from home burner owners was practically nil. Prices of all grades of distillate, gas and fuel oils were generally unchanged over those shown in NATIONAL PETROLEUM NEWS of May 29.

Lubes Continue Unchanged

HOUSTON, June 3.—Gulf Coastal lubricant markets, although stiffened by the recent advance in "A" grade crude prices, continue to show no change as compared with recent quotations. The effect of the crude advance was to bring manufacturers into closer adherence to list prices, which had been shaded in some instances. Now the manufacturers are getting away from the last mentioned tendency.

Some of the
116 TYPES
of
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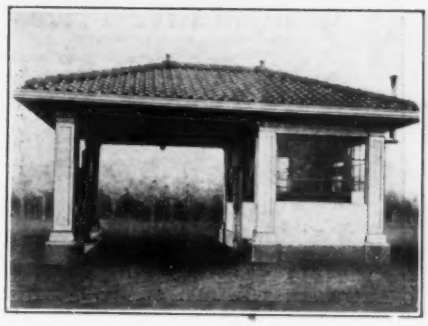
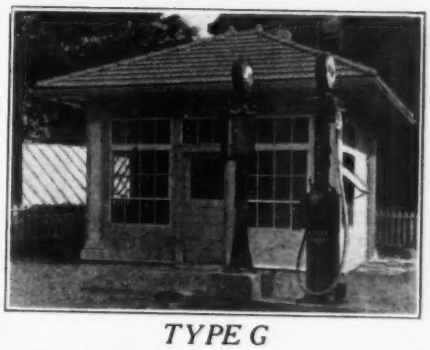


TYPE GS-1



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TYPE SS

SHEPARD CORPORATION has put on the market a line of GREASE PIT AND AUTO LAUNDRY BUILDINGS as artistic and permanent as SHEPARD SERVICE STATIONS.

Watch our advertisement for these.

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SHOPS-IRVINGTON, NEWARK N. J.

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

Comparative Prices of 58-60 U. S. Motor Gasoline, Group 3 and Point of Origin, to Jobbers Only

In Effect June 3

	Price F.O.B. Group 3	*Price F.O.B. Point of Origin*	*If for Particular Destination*
Oklahoma	9.1920 (Wt. Avg.)	9.1920 (Wt. Avg.)	
Kansas	9.00-9.25		S. O. Neb. & Ind. Ter., etc.
Kansas		9.5375 (Wt. Avg.)	Kansas only.
North Texas	8.875-9.00	9.00	
West Texas	9.00-9.25	9.00-9.25	
Louisiana-Ark.	9.00		Mich., Ohio & Indiana.
Louisiana-Ark.		9.25	State or differential haul.
Indiana-Illinois	9.25	*	S. O. Ind. territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from E. Chicago, Ind., and Wood River, Ill., according to conditions and freight rates; no prices F.O.B. point of origin can be given.

Weighted Average Prices

OKLAHOMA

	June 3		May 27		May 20	
	No. of cars	Price	No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	56	9.1920	72	9.0625	61	7.9037
60-62 437 e. p. gasoline	4	9.3750	11	9.3068	19	8.0197
60-62 400 e. p. gasoline	2	9.6875	1	9.5000	4	8.2813
64-66 375 e. p. gasoline	1	9.7500	1	9.7500	6	8.4583

A portion of the crude advance at least has been placed on gasolines by Oklahoma refiners as is evidenced by the higher levels shown by the above weighted averages. Prices above are approximately 0.125 cent above those of a week ago, and almost 1.50 cent above prices prevailing just prior to announcement of the crude advance on May 20.

Virtually all refiners in Oklahoma, both reporting and non-reporting were quoting 9 cents and above for 58-60 U. S. Motor, with at least one refiner up to 9.50 cents for his grade of U. S. Motor.

KANSAS

	June 3		May 27		May 20	
	No. of cars	Price	No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	20	9.5375	16	9.2656	26	8.0000

Kansas refiners kept pace with the Oklahoma refiners the past week as is evidenced by the weighted averages shown above. Demand was reported considerably improved in that state.

GASOLINE AND NAPHTHA

OKLAHOMA

	Prices June 3	Prices May 27	Prices May 20
48-50 450 e.p. naphtha	8.625- 8.75	8.50 - 8.75	7.375- 7.625
50-52 450 e.p. naphtha	8.625- 8.75	8.50 - 8.75	7.375- 7.625
56-58 450 e.p. gasoline	8.625- 8.75	8.50 - 8.75	7.375- 7.625
58-60 450 e.p. gasoline	8.625- 8.875	8.50 - 8.875	7.375- 7.625
64-66 390 e.p. gasoline	9.50 - 9.625	9.00 - 9.125	8.25 - 8.50
68-70 350-360 e.p. gasoline	9.625- 9.875	9.25 - 9.75	8.75 - 9.00

†Prices nominal ††Only one refiner quoting *Quotations only

PENNSYLVANIA

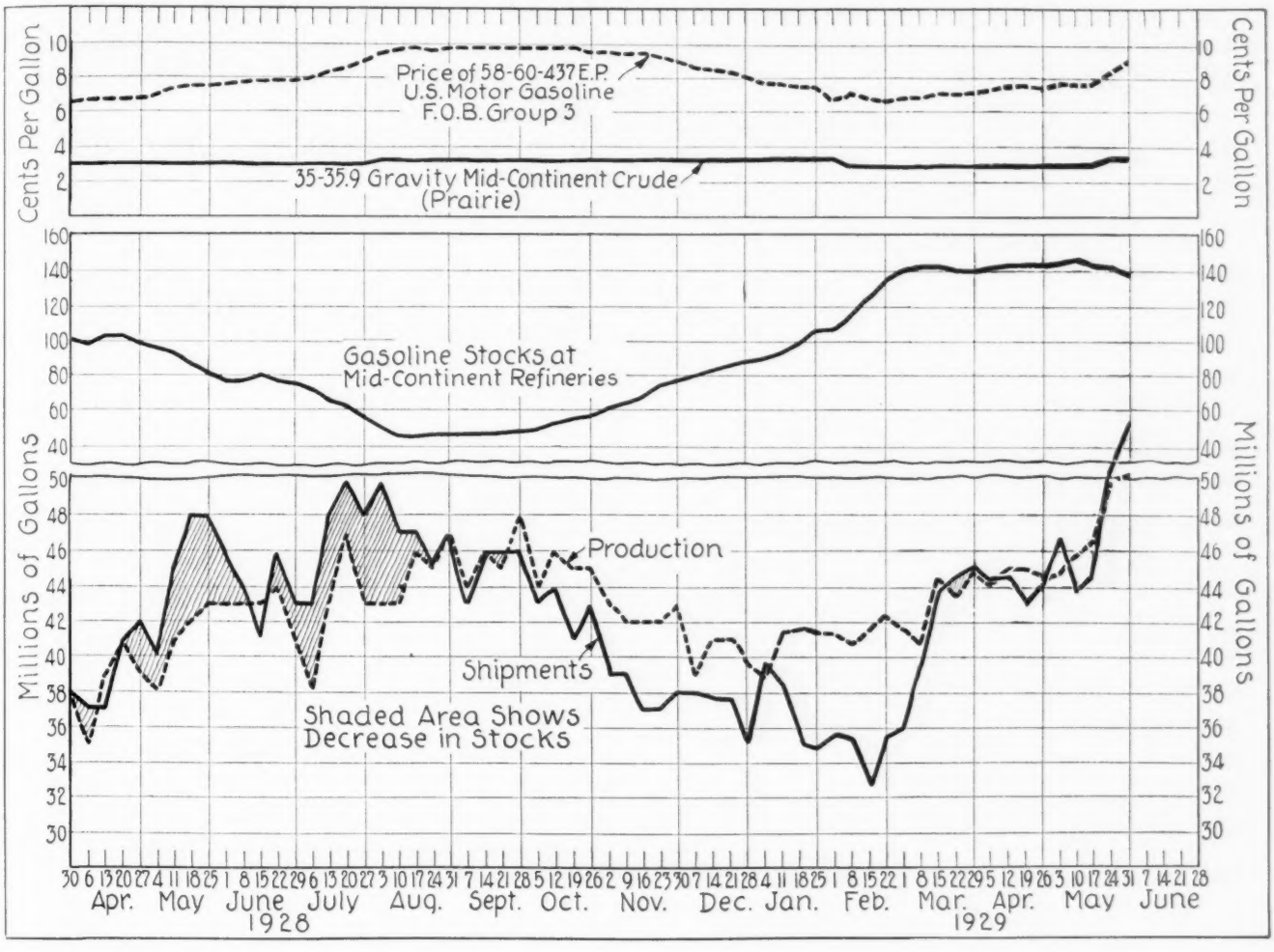
	Prices June 3	Prices May 27	Prices May 20
52-54 Naphtha	9.25 - 9.75	9.00 - 9.50	8.75 - 9.00
54-56 Naphtha	9.50 -10.00	9.00 - 9.50	8.75 - 9.00
58-60 U.S. Motor 437 e.p.	10.25 -11.00	9.75 -10.25	9.25 - 9.75
60-62 400-410 e.p. gasoline	10.50 -11.25	10.00 -10.50	9.75 -10.25
64-66 390 e.p. gasoline	10.75 -11.50	10.50 -11.00	10.50 -11.00
68-70 Str-run gas 350-360 e.p.	11.50 -12.50	11.50 -12.25	11.50 -12.00

(Continued on Page 106)

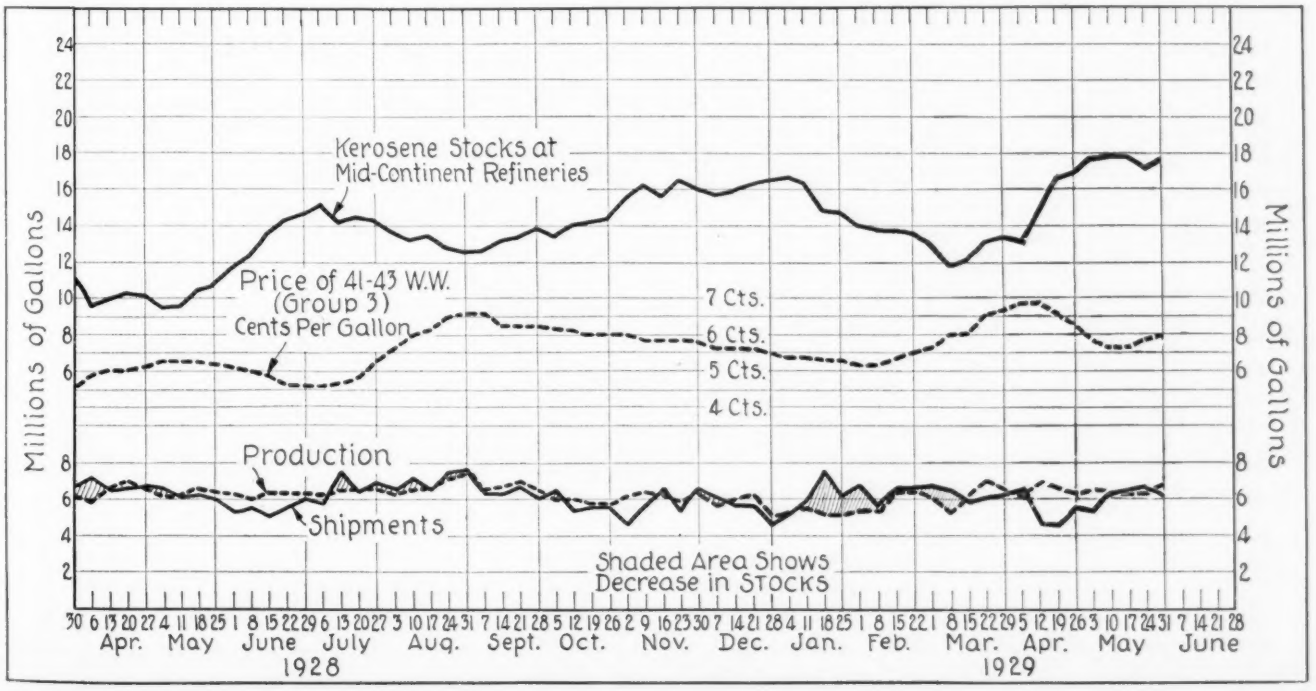
**Represents Both Sales and Quotations.

Barometer of Mid-Continent Refinery Market—Week Ending May 31

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Gasoline Stocks at Mid-Continent Refineries
Millions of Gallons
Production
Shipments
Shaded Area Shows Decrease in Stocks
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 114.



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)
U. S. Motor Gasoline

	Prices June 3	Prices May 27	Prices May 20
Ohio, delivery at any point	12.00	‡11.50	‡11.50

‡Except Cincinnati, Cleveland, Lima and Toledo, within refinery switching area, where prices were 11.25 cents, May 27 and May 20.

KANSAS (F. O. B. refinery Kansas destination)

60-62 437 e.p. gasoline	9.00 – 9.50	9.00 – 9.50	8.00 – 8.125
60-62 400 e.p. gasoline	9.50 –10.00	9.50 –10.00	8.125– 8.375
64-66 375 e.p. gasoline	9.75 –10.00	9.75 –10.00	8.50 – 8.625

NORTH TEXAS

48-52 450 e.p. naphtha	8.25 – 8.375	8.25	7.125– 7.25
56-58 450 e.p. gasoline	8.25 – 8.375	8.25	7.125– 7.25
58-60 450 e.p. gasoline	8.25 – 8.50	8.25	7.125– 7.25
58-60 U.S. Motor 437 e.p.	9.00	8.75 – 9.00	7.50 – 7.75
60-62 400 e.p. gasoline	9.125– 9.50	9.00	7.75 – 8.00
64-66 390 e.p. gasoline	9.50	9.00 – 9.25	8.00 – 8.125
64-66 375 e.p. gasoline	9.50 – 9.625	9.25 – 9.50	8.00 – 8.25
68-70 350-360 e.p. gasoline	9.625– 9.75	9.25 – 9.50	8.25 – 8.50

****WEST TEXAS (F.o.b.West Texas refinery, for unrestricted shipment)**

50-52 naphtha	8.50	8.00 – 8.25	7.25 – 7.50
56-58 437 e.p. gasoline	8.50 – 8.75	8.25 – 8.50	7.50
58-60 437 e.p. gasoline	9.00 – 9.25	8.75 – 9.25	7.50 – 7.625

NORTH LOUISIANA (N. La., Ark., and Miss. destination)

58-60 U.S. Motor gasoline	9.25	9.25	8.00

ARKANSAS (Arkansas destination only)

58-60 450 e.p. gasoline	9.00	9.00	7.75 – 8.00
58-60 U.S. Motor 437 e.p.	9.25	9.25	8.00
61-63 390 e.p. gasoline	††9.625	††9.625	††8.75

‡CALIFORNIA

54-58 U.S. Motor 437 e.p.	8.25 –11.50	7.25 –10.50	7.25 –10.50
58-61 375-400 e.p. gasoline	9.00 –12.25	8.25 –11.50	8.25 –11.50
42-45 Eng. dis. 445-480 e.p.	7.00 – 8.50	7.00 – 8.50	7.50 – 9.00

‡3c tax to be added to California gasoline prices if used in state.

NATURAL GASOLINE

(Note: End point of all grades, not over 375 F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA

Grade AA, 80-87.9, 90% Recovery	7.50	7.50 – 8.00	6.75
Grade A, 72-79.9, 90% Recovery	7.50	7.50 – 8.00	6.75
Grade BB, 84-92, 85% Recovery	7.25	7.25 – 7.375	6.25
Grade B, 76-83.9, 85% Recovery	7.25	7.25 – 7.375	6.25
Grade C, 80-90, 78% Recovery	7.25	7.00 – 7.25	6.25

Offers to buy; no sales reported

NORTH TEXAS (F. O. B. Breckenridge)

Grade AA, 80-87.9, 90% Recovery	7.50	7.50 – 8.00	6.75
Grade A, 72-79.9, 90% Recovery	7.50	7.50 – 8.00	6.75
Grade BB, 84-92, 85% Recovery	7.25	7.25 – 7.375	6.25
Grade B, 76-83.9, 85% Recovery	7.25	7.25 – 7.375	6.25
Grade C, 80-90, 78% Recovery	7.25	7.00 – 7.25	6.25

Offers to buy; no sales reported.

NORTH LOUISIANA (F. O. B. Monroe District)

Grade AA	†8.00	†8.00	†6.875
Grade BB	†7.50	†7.50	†6.375
Grade C	†7.375	†7.375	†6.375

CALIFORNIA

75-85, 375-390 e.p. blend	8.50 – 9.00	9.00 – 9.50	8.50 – 9.00

MOTOR FUEL BLENDS

OKLAHOMA

	Prices June 3	Prices May 27	Prices May 20
64-66 Blend 437 e.p.	.....	8.00	7.375

BURNING OILS

PENNSYLVANIA

45 w.w. kerosene	6.75 – 7.25	7.00 – 7.50	7.00 – 7.50
46 w.w. kerosene	7.00 – 7.50	7.25 – 7.75	7.375– 8.00
47 w.w. kerosene	7.625– 8.00	7.75 – 8.25	7.875– 8.25
300 mineral seal	7.50 – 7.75	7.75	7.75

OKLAHOMA

41-43 w.w. kerosene	6.00	5.75 – 6.00	5.50 – 5.75
42-44 w.w. kerosene	6.375– 6.50	6.25 – 6.50	6.00 – 6.25

KANSAS (F. O. B. refinery Kansas destination)

41-43 w.w. kerosene	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
42-44 w.w. kerosene	6.50	6.50	6.50

NORTH TEXAS

40-42 w.w. kerosene	5.375	5.25	5.25
41-43 w.w. kerosene	5.50 – 5.625	5.375– 5.625	5.25 – 5.50

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosene	6.50	6.50	6.50
42-44 w.w. kerosene	6.75	6.75	6.75

ARKANSAS (Arkansas destination only)

42-44 kerosene	6.75	.....	6.75

CALIFORNIA

38-40 w.w. kerosene	5.00 – 6.00	5.50 – 6.00	5.00 – 6.00

NEUTRAL OIL

PENNSYLVANIA

Vis.	(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	29.00 –30.00	29.00 –30.00	29.00 –30.00
180 No. 3 Assoc. Filt.	25.00 –27.00	25.00 –27.00	25.00 –27.00
150 No. 3 Assoc. Filt.	21.00 –22.00	21.00 –22.00	21.00 –22.00
	(Non Viscous)		
34 Grav. 330-340 Flash	7.50 – 8.00	7.50 – 8.00	7.75 – 8.00

****OKLAHOMA**

Vis.	Color	(Viscosity at 100°F.)		
100	No. 2	6.00 – 7.00	5.50 – 6.50	5.50 – 6.00
150	No. 3	7.50 – 8.50	7.50 – 8.50	7.50 – 8.50
150	No. 4	6.50 – 7.50	6.50 – 7.50	6.50 – 7.50
180	No. 3	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
180	No. 4	8.75 – 9.75	8.75 – 9.75	8.75 – 9.75
180	No. 5	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
200	No. 3	9.50 –11.00	9.50 –11.00	9.50 –11.00
200	No. 4	9.00 –10.25	9.00 –10.25	9.00 –10.25
200	No. 5	8.75 – 9.50	8.75 – 9.50	8.75 – 9.50
220	No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220	No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220	No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240	No. 3	13.00 –13.50	13.00 –13.50	13.00 –13.50
240	No. 4	12.00 –13.00	12.00 –13.00	12.00 –13.00
240	No. 5	11.00 –13.00	11.00 –13.00	11.00 –13.00
280	No. 3	14.00 –16.00	14.00 –16.00	14.00 –15.50
280	No. 4	13.00 –15.00	13.00 –15.00	13.00 –14.00
280	No. 5	12.00 –14.00	12.00 –14.00	12.00 –13.00
300	No. 5-6	16.00 –17.00	16.00 –17.00	16.00 –17.00

†Prices nominal ††Only one refiner quoting *Quotations only **Represents both sales and quotations ***Represents quotations and offers to buy

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL

Vis.	Color	Prices June 3	Prices May 27	Prices May 20
		(Viscosity at 100°F., pour test 0)		
100	No. 2 Pale	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
200	No. 3 Pale	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
300	No. 3 Pale	10.00 –10.50	10.00 –10.50	10.00 –10.50
500	No. 3½ Pale	12.00 –12.50	12.00 –12.50	12.00 –12.50
750	No. 4 Pale	13.00 –13.50	13.00 –13.50	13.00 –13.50
200	No. 5½ Red Oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300	No. 5½ Red Oil	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
500	No. 6 Red Oil	10.00 –10.50	10.00 –10.50	10.00 –10.50
750	No. 6 Red Oil	12.00 –12.50	12.00 –12.50	12.00 –12.50

CALIFORNIA

Vis.	Color			
		(Viscosity at 100°F.)		
100	No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200	No. 3	11.50	11.50	11.50
300	No. 3	13.00	13.00	13.00
450	No. 3	15.50	15.50	15.50
550	No. 3	16.50	16.50	16.50
600	No. 3	17.00	17.00	17.00
200	No. 5	11.00	11.00	11.00
300	No. 5	12.00	12.00	12.00
400	No. 5	14.00	14.00	14.00
500	No. 5	15.00	15.00	15.00
600	No. 5	16.00	16.00	16.00
700	No. 7	18.00	18.00	18.00

CYLINDER STOCKS

**OKLAHOMA

190-200 Vis. at 210° Brt. St.	35.00 –37.00	35.00 –37.00	35.00 –36.00
150-160 Vis at 210° Brt. St.	34.00 –37.00	33.00 –35.00	33.00 –34.50
600 E. St. 150-160 Vis.-210°	29.00 –33.00	28.00 –30.00	18.00 –20.00
600 St. Ref. Olive Green	15.00 –20.00	15.00 –18.00	14.00 –18.00
600 St. Ref. Dark Green	14.00 –16.00	13.00 –16.00	11.00 –13.00
Black Oil	5.00	5.00	5.00

PENNSYLVANIA (A. S. T. M. Tests)

600 Steam Refined, filterable	33.00 –35.00	33.50 –35.00	35.00 –37.00
650 Steam Refined	39.50 –41.00	39.50 –41.00	41.00 –42.00
600 Flash	42.00 –45.00	42.00 –43.00	42.00
625 Flash	45.00 –47.00	45.00	No quotations
600 Warren E	37.00 –37.50	37.00 –38.00	37.00 –38.00
600 Oil City E	36.00 –36.50	36.00 –37.00	36.00 –37.00
600 D Filtered	40.00 –41.00	40.00	40.00
Cold Test Stock, 40-50p. p., 140-150 vis. at 210° 540-550 flash, No. 8 color	55.50 –56.00	55.00 –58.00	54.00 –58.00
40-50 p.p., 140-150 vis. at 210°, 540-550 flash, No. 6-6½ color diluted	54.00 –55.00	54.00 –56.00	54.00 –56.00

WAX

PENNSYLVANIA Per pound, New York

122-124 white crude scale, a. m. p.	2.875– 3.00	3.00	3.25 – 3.50
124-126 white crude scale, a. m. p.	3.00	3.00	3.25

OKLAHOMA

**124-126 White Crude Scale, a. m. p.	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25

CALIFORNIA

White crude scale, per pound, ton lots, a. m. p.	5.00 – 6.00	6.00 – 6.50	6.00 – 6.50

FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

	Prices June 3	Prices May 27	Prices May 20
36-40 fuel oil	5.00 – 5.25	5.125– 5.50	5.375– 5.625
30-34 fuel oil	4.625– 4.875	4.625– 4.875	4.625– 4.875
28-32 fuel oil	4.625– 4.875	4.625– 4.875	4.625– 4.875

OKLAHOMA

38-40 straw distillate	†3.25 – 3.375	†3.25 – 3.375	†3.25 –†3.375
36-38 straw distillate	†3.125– 3.25	†3.125– 3.25	†3.125– 3.25
32-36 gas oil, straw	2.50 – 2.75	2.50	2.50
32-36 dark gas oil	2.50 – 2.625	2.375– 2.50	2.375– 2.50
32-36 zero gas oil	2.50 – 2.75	2.50	2.50
28-30 zero fuel oil	$0.875– 0.95	$0.85 – 0.90	$0.875– 0.95
28-30 fuel oil (in bbls.)	$0.875–$0.925	$0.875– 0.95	$0.85 – 0.90
26-28 fuel oil (in bbls.)	$0.675– 0.75	$0.65 – 0.725	$0.65 – 0.725
24-26 fuel oil (in bbls.)	$0.675–$0.75	$0.625– 0.675	$0.625– 0.675
22-26 fuel oil (in bbls.)	$0.55 –$0.625	$0.55 – 0.60	$0.55 – 0.60
18-22 fuel oil (in bbls.)	$0.55 – 0.575	$0.525– 0.575	$0.525– 0.575
16-18 fuel oil (in bbls.)	$0.50 – 0.55	$0.50 – 0.55	$0.50 – 0.55
14-16 fuel oil (in bbls.)	$0.45 – 0.50	$0.45 – 0.50	$0.45 – 0.50

KANSAS (F. O. B. refinery Kansas destination)

38-40 straw distillate	3.375– 3.50	3.375– 3.50	3.50
36-38 straw distillate	3.25 – 3.375	3.25 – 3.375	3.375
32-36 gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
24-26 fuel oil	$0.70 – 0.75	$0.70 – 0.75	$0.70 – 0.75
18-22 fuel oil	$0.625– 0.70	$0.625– 0.70	$0.625– 0.70

NORTH TEXAS

38-40 straw distillate	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
32-36 gas oil, cracked	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
32-36 St. reduced gas oil	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
24-26 fuel oil (in bbls.)	$0.65 – 0.70	$0.60 – 0.65	$0.60 – 0.65
20-24 fuel oil	$0.65 – 0.70	$0.625– 0.65	$0.625–$0.65

**WEST TEXAS (F.o.b. West Texas refinery, for unrestricted shipment)

34-38 gas oil	2.375– 2.50	2.25 – 2.375	2.25 – 2.375
30-32 gas oil	2.00 – 2.25	2.00	1.875– 2.00
18-22 fuel oil	$0.35 –$0.40	$0.30	$0.30

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	3.00	3.00	3.00
32-36 gas oil, straw	3.00	3.00	3.00
10-14 fuel oil (in bbls.)	$0.70 – 0.75	$0.70	$0.70

ARKANSAS (Arkansas destination only)

32-36 gas oil, straw	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
32-36 gas oil	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
28-30 gas oil	2.75	2.75	2.75

CALIFORNIA (F. O. B. San Joaquin Valley. At. San Francisco, 4c per bbl. more)

14-18 fuel oil (per bbl.)	$0.55 –$0.65	$0.55 –$0.65	$0.55 –$0.65
14-18 Bunker oil (per bbl.)	$0.65 –$0.75	$0.70 –$0.75	$0.70 –$0.80
30-34 gas oil (per bbl.)	$0.90 –$1.05	$0.90 –$1.05	$0.90 –$1.05
27 Plus Diesel oil (per bbl.)	$0.90 –$1.00	$0.90 –$1.00	$0.90 –$1.00

PETROLATUMS

PENNSYLVANIA (In barrels, carload lots, f. o. b. refinery. In tank cars ½c to ¾c per pound less.) Two refiners quoting.

Snow White	8.25 – 8.50	8.50	8.50
Lily White	7.25 – 7.625	7.50 – 7.625	7.50 – 6.625
Cream White	6.25 – 6.625	6.50 – 6.625	6.50 – 6.625
Light Amber	3.50 – 3.625	3.625	3.625
Amber	3.25 – 3.375	3.375	3.375
Red	3.00 – 3.125	3.125	3.125

PETROLEUM COKE

**OKLAHOMA

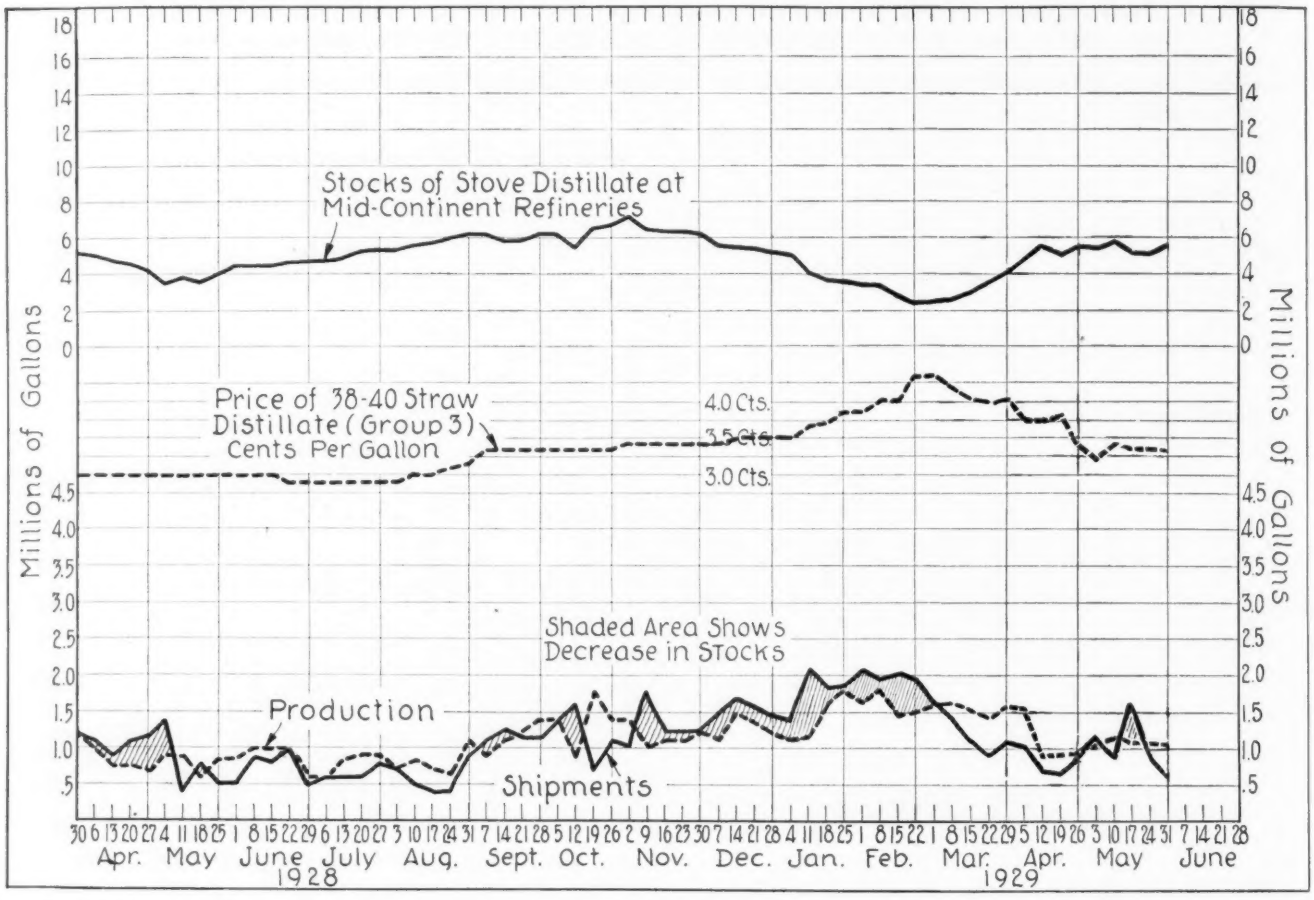
(Per ton in car lots)

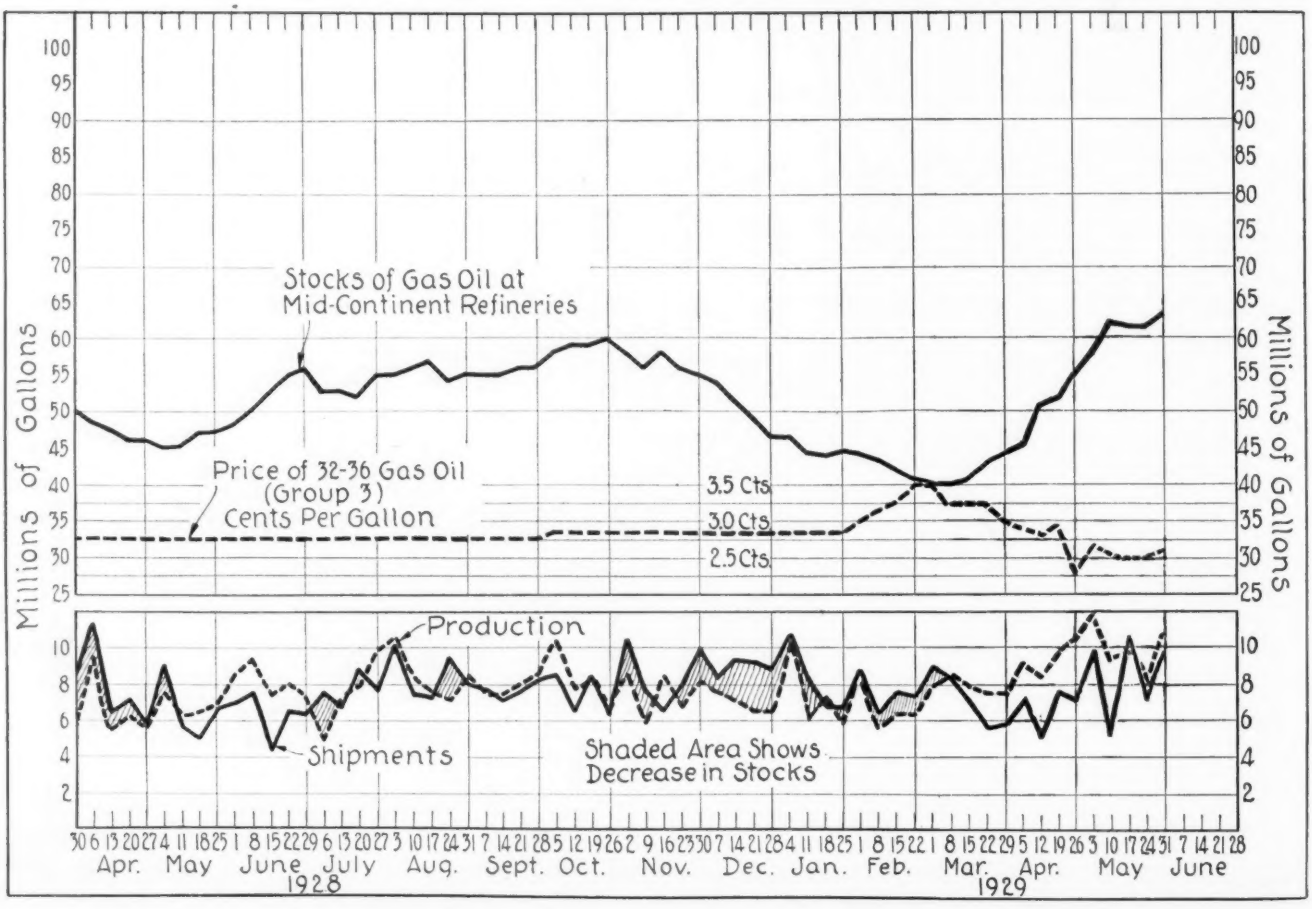
Lump	$4.50 – 5.00	$4.50 – 5.00	$4.50 – 5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

†Prices Nominal ††Only One Refiner Quoting *Quotations only **Represents both sales and quotations

Barometer of Mid-Continent Refinery Market—Week Ending May 31

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Stocks of Stove Distillate at Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) Cents Per Gallon
4.0 Cts.
3.5 Cts.
3.0 Cts.
Shaded Area Shows Decrease in Stocks
Production
Shipments
Millions of Gallons
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929


Stocks of Gas Oil at Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) Cents Per Gallon
3.5 Cts.
3.0 Cts.
2.5 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
Millions of Gallons
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

Outstanding Features of the Chevrolet Six Cylinder Trucks

for Economical Transportation

CHEVROLET

1 SIX-CYLINDER PERFORMANCE

Powered by a rugged six-cylinder valve-in-head engine—Chevrolet trucks provide remarkable smoothness, flexibility and acceleration—even when hauling a capacity load.

2 AMPLE CAPACITY

A longer, stronger, heavier frame makes possible the mounting of any body type, with loading space up to 9 feet in length and a gross load limit of 7000 lbs.

3 OUTSTANDING ECONOMY

Improved carburetion and a new high-compression, non-detonating cylinder head provide gasoline economy which is actually as great as that of a four-cylinder truck.

4 DAY-AFTER-DAY DEPENDABILITY

Numerous notable mechanical advancements, combined with extraordinary staunchness of construction, make the new Chevrolet six-cylinder trucks unusually dependable.

5 SMART APPEARANCE

A wide array of body types not only meets every haulage and delivery requirement—but provides unusually smart appearance and the utmost convenience.

Gas & Oil Distributors know—

—that the swift pace of today's traffic conditions demands the increased power, speed, flexibility and acceleration of a six-cylinder engine. And because the new Chevrolet trucks provide this six-cylinder performance *with the economy of the four*, their popularity is growing by leaps and bounds in every section of the country.

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CHEVROLET MOTOR COMPANY, DETROIT, MICH.
Division of General Motors Corporation

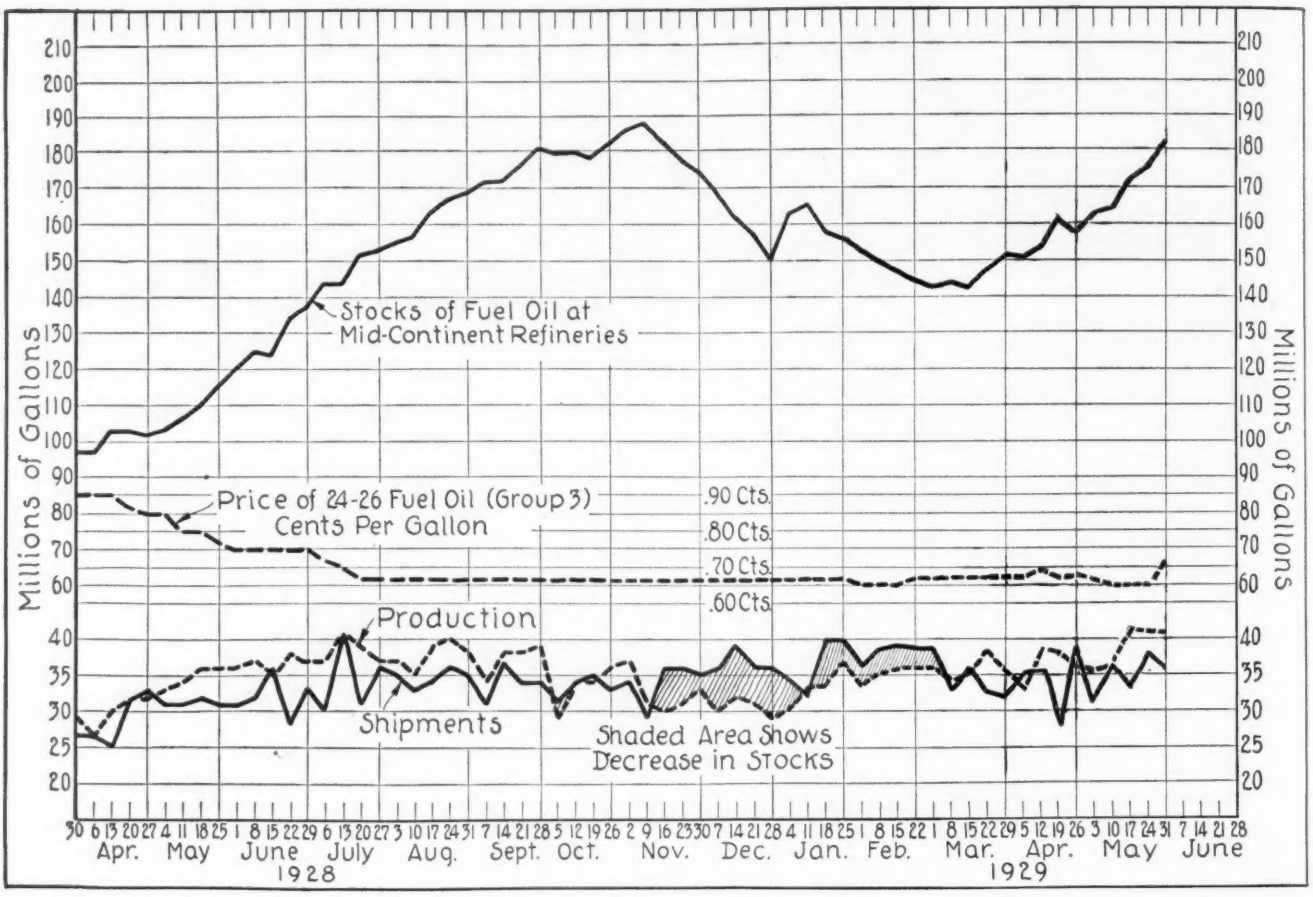
The Sedan Delivery.. $595 The Light Delivery Chassis $400 The 1½ Ton Chassis..... $545 The 1½ Ton Chassis with Cab $650

All prices f. o. b. factory, Flint, Michigan

- A SIX IN THE PRICE RANGE OF THE FOUR

Barometer of Mid-Continent Refinery Market—Week Ending May 31

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Millions of Gallons
Millions of Gallons
Stocks of Fuel Oil at Mid-Continent Refineries
Price of 24-26 Fuel Oil (Group 3) Cents Per Gallon
.90 Cts.
.80 Cts.
.70 Cts.
.60 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

California Refinery Market

Tank Car Demand Good

LOS ANGELES, May 31

CALIFORNIA export and refinery markets remained at a standstill during the week ended May 31, there being very few inquiries and fewer spot sales.

Inability of eastern sellers to show a profit at the existing price of California gasoline has made spot sales to the Atlantic Coast few and far between. The tanker rates were still up so that U. S. Motor would have to be laid down at the San Pedro harbor a shade under 6.50 cents to ensure a reasonable profit to the eastern dealer. Present prices for export gasoline vary from 7 to 7.5 cents.

Two clean cargoes were reported shipped last week to the United Kingdom and Continental Europe, at a price one cent under that at the Gulf, or about 7.50 cents. Two major companies are said to have sold a cargo apiece, but the destination was withheld.

Refinery officials are tightening up on the gasoline market as rumors are heard of an advance in the tank wagon price. U. S. Motor for interstate use was up a fraction of a cent, going at from 10.50 to 11.50 cents, without tax.

Major companies are reported to be contracting for all excess crude oil and gasoline held by independents. One independent has agreed to deliver approximately 1,000,000 barrels of crude and a large quantity of gasoline within the coming year to a major company.

Gasoline for out of state consumption was more active judging from asked prices. One seller reported that the quoted price was 8.25 to 8.50 cents, although he thought 7.75 to 8 cents would buy all anyone wanted.

In order to get Utah business the same dealer said he thought 8 cents would have to be quoted. Another expected to ask about 9 cents for Arizona and 8.50 for Utah gasoline, for June shipment.

A number of spot sales were reported for absorption gasoline at prices ranging from 8.50 to 9.00 cents.

Other refinery products were unchanged from last week's quotations with little trade reported.

Pennsylvania Market

Gasoline Continues Active

CLEVELAND, June 3.—Substantial advances in gasoline prices featured western Pennsylvania markets during the week ended June 1. Kerosenes dropped 0.125 to 0.25 cent. There was a further easing in the cylinder stock and bright stock situation, although there were no signs of what might be termed weakness in this section of the market.

Excellent motoring weather over the Memorial Day holiday created a better spot demand for gasoline from

the jobbing trade, than Pennsylvania refiners have experienced previously this year.

Several refiners reported they were behind on shipments Saturday as a result of jobbers replenishing stocks after the holiday. The situation probably was made somewhat tighter, also, through the purchases of western brokers earlier in the week. According to reports, something like 150 cars of U. S. Motor gasoline were taken from the market May 27 and 28, with the result that much of the usual month end surplus was eliminated in short order.

The western brokers were reported to have made the bulk of their U. S. Motor purchases at 9.75 cents. Prices in the next few days advanced 0.5 to 0.75 cent with no difficulty whatever. A car or two of U. S. Motor was reported available Monday, June 3 at 10 cents but the minimum quotation of the majority of sellers was 10.25 cents. Several were asking as high as 11 cents both for spot shipment and over the balance of June.

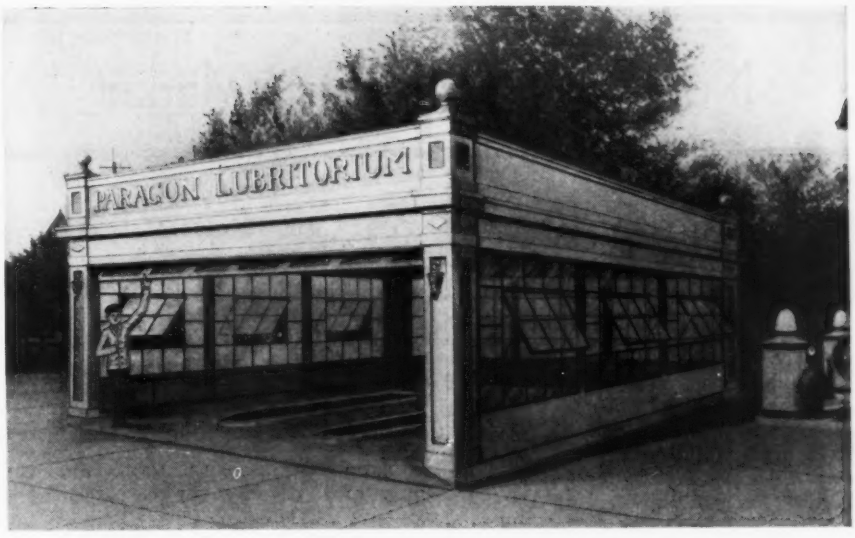
Reports on kerosene varied greatly and quotations reflected this condition in covering a wide range. The majority of sellers still were on the top side of the market although sufficient sales at lower prices were reported by the minority to be considered representative of the general market. Sales of 45 water white at under 7 cents were more frequent toward the end of the week. On June 3 this grade at 6.75 cents was a market factor. The higher grades of kerosene were proportionately lower in price.

Cylinder stocks appeared on the market in larger volume last week, particularly the 600 and 650 steam refined grades. The former grade was freely available at 34 to 35 cents and an offer of 200,000 gallons at 33 cents also was reported. On the other hand, a number of refiners continued to report they were sold up on steam refined stocks for from 30 to 60 days.

There was a little reaction in the bright stock market as a result of the lower prices for steam refined. The market for No. 8 color oil leveled out to 56 cents flat toward the end of last week. A sale of this grade at 55.50 cents was reported June 3. Demand for bright stocks was reported holding up fairly well.

White crude scale, 122-124 A.m.p., was offered by one or two sellers at 2.875 cents a pound, New York, 0.125-cent lower than a week ago. Even this low figure failed to attract any appreciable volume of buying from abroad, they reported.

TULSA, June 1.—Mr. and Mrs. O. J. Tuttle and young son are spending a month in California. Mr. Tuttle is sales manager for the Empire Oil & Refining Co.



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New York Domestic Market

Gasoline Still Available at Nine Cents

Staff Special

NEW YORK, June 1

A CHECK of the gasoline market June 1, showed that a number of sellers were still at 9 cents for U. S. Motor at New York, and that a slightly larger number were quoting 10 cents. At other points regular U. S. Motor was being quoted at 10 cents with very little shading reported.

The wide spread between quotations for U. S. Motor at New York has caused quite a lot of comment among the trade. Those who were at 10 cents, some of whom have reported sales at that figure, were certain that was the market while others who have been below believed the market nearer 9 than 10 cents, and also reported spot sales at that figure. One refiner stated he would not raise his price until the 9-cent competition had disappeared. Another was undecided as to what his price would be and a third who has been at 9 cents reported he had adopted the 10-cent price.

A number of brokers were also quoting below 10 cents. One broker May 31, quoted a barge load of U. S. Motor at 8.50 cents although he didn't make the sale. He stated, when he made the quotation, he did it with the instruction that it would have to be loaded that same day as he wanted to get it in his report as May business. No doubt he was willing to make some concession in price in order to move the goods. His price was 9 cents.

Sellers at all points along the seaboard said they were receiving inquiries for June gasoline but only a few were willing to quote for shipment over that period. One refiner was quoting on the market-date-of-shipment plan; another said he had taken some business at 10 cents, and still another said he was booking business over the first 15 days of the month only. An unconfirmed report during the week was to the effect that one seller had disposed of 750,000 gallons for shipment over June at 9.25 cents per gallon.

California gasoline was being quoted generally at 10 cents at all points although at New York, one seller was asking 10.50 cents. The price at Philadelphia, however, until June 1 had been 9.50 to 10. One seller reported he had a sizable quantity of gasoline in storage there and that he was going to move it if possible before June 1 and would sell as much as he could at 9.50 cents. June 1 he raised his price there to 10 cents, which price has also governed his sales at Baltimore. Virtually all sellers report that demand has been good and that, while there have been no quotations made, inquiries have been received for over June.

Suppliers of both California and regular U. S. Motor were expecting a firm market in the next few days at all points. The weather has been excellent for motoring the past week which has helped increase consumption and the holiday trade made heavy inroads on jobbers' supplies. The two combined have placed many jobbers in a position where it is believed they will have to come into the open market for additional requirements.

All other commodities were unchanged in price. Gas oil was moving in a fair way at 4.75 to 5 cents, furnace oil at 6 to 6.50 cents, bunker oil at $1.05 and Diesel oil at $2.00 to $2.10. Kerosene was reported slow at 8 cents and while it was reported that in large quantities a better price might be done, there was no shading of this figure for small lots.

Gulf Export Market

Trade Puzzled Over Gasoline Situation

Staff Special

NEW YORK, June 1

ALTHOUGH bulk suppliers of gasoline at the Gulf daily expected an advance in prices during the past week, none was made and several of the trade advanced different opinions than they entertained at the close of the week prior. Some of them who had been confident that an advance would come about early, felt that it would be some time now until a change was made even though they believed the market as far as suppliers were concerned, warranted it.

Rumors of an advance were heard three weeks ago. Then it was the opinion that prices in gasoline would be raised from 0.25 to 0.50 cent by the Petroleum Export Association and that kerosene would be lowered. After the change in crude prices an advance of from 1 to 2 cents was talked of and has been expected up until the latter part of the week ended June 1. During the past week two meetings of the Association have been held presumably to discuss prices but no action toward an increase has been taken.

It was reported there is some difference of opinion among members of the association as to whether or not an increase is warranted at this time. It is generally agreed that as far as suppliers are concerned an advance should be made but, judging from an international angle as was pointed out by one seller, to raise prices might encourage foreign buyers to make purchases in their own fields and thus divert at least a portion of the business that the trade has been enjoying the last few weeks. That is believed to be the viewpoint taken by a number of the members.

At present the price of U. S. Motor for export—8.50 cents per gallon—is lower than that being quoted for U. S. Motor for domestic shipment at the Gulf, which is now 8.50 to 9 cents, with some suppliers advancing even higher ideas of the market. One stated his opinion was that the market was 9.25 cents although he had sold nothing at that figure. Another who has also made no sales stated his company's price was 9.75 cents. Sales, however, have been checked at 8.50 and 9 cents. The sale of one cargo was reported at 9.75 cents, delivered to Providence, R. I. which would net back about 8.875 cents at the Gulf.

Other commodities for domestic shipment were unchanged in price although a broker who deals quite a bit in gas oil reported that goods were hard to obtain. The general quotation however, was 4 cents.

There were no new inquiries in the market the past week although three which were entered the week previously were closed May 27. All three were from French accounts and totaled approximately 175,000 barrels. One was for approximately 50,000 barrels of 41-43 prime white kerosene, 61-63, 390 end point and 64-66, 375 end point gasoline for prompt loading. The other two were for loading the latter part of July. One called for approximately 50,000 barrels 64-66, 375 end point and U. S. Motor gasoline and the other approximately 75,000 barrels of 64-66, 375 end point gasoline only. All were closed at prices which have been prevailing for the past several weeks.

Wax Market

Scale Active; Prices Steady

NEW YORK, June 1.—While the wax market continued to be slow during the past week and suppliers' ideas of prices varied, there were several who were more optimistic about the future than was the case the week prior. Quotations on the scale waxes—both white and yellow—were unchanged at 2.875 to 3, and 2.875 cents respectively. On the lower melting point fully refined grades quotation ranges were wider by an 0.125 cent, 123-125 A.m.p. and 125-127 A.m.p. being quoted at 4 to 4.25 cents. The remainder of the list were slightly lower in some instances.

Sales during the week were not many with the bulk of the movement appearing to be for domestic consumption. One refiner sold an order of 100 tons of 124-126 white crude scale at 3 cents for shipment to England and a similar order for yellow crude scale at the same price for domestic shipment. The latter goods moved early in the week, however, and was a trifle higher than the price being quoted May 29. Another seller reported he had sold between 200 and 300 tons of white crude scale during the week which moved out in small lots, some going at 2.875 cents and some at 3 cents. Other sales of crude scale were checked in that range and a broker reported that some had moved as low as 2.75 cents. However, confirmation on sales lower than 2.875 cents could not be obtained. Very few sales of fully refined goods were reported and quotations largely governed prices on those commodities.

Some wax marketers in New York believe the market has about reached its low level and that in a few weeks will take a turn for the better. Opinions were based on the fact that a number of foreign buyers have been showing a willingness to contract for a year's requirements on white crude scale, endeavoring to take advantage of the present low price.

Offers of 2.75 cents per pound have been heard for over the year although as far as has been learned no sales have been made at that figure. One seller reported he had made a firm offer of 2.875 cents on some of that business but had had no reply to his offer as yet.

In spite of the fact that stocks showed a gain of approximately 12,000,000 pounds during the month of April, one large refiner and exporter with main offices in the Mid-Continent, claimed that refiners were better situated on stocks than they have been for some weeks.

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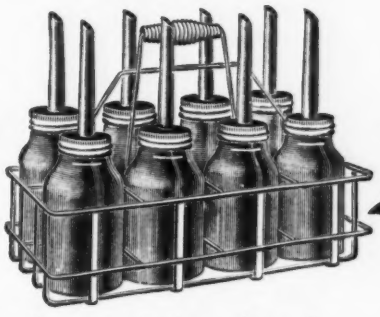

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Complete Seaboard Market

(Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of quotations.)

U. S. MOTOR GASOLINE	June 3	May 27	May 20
New York harbor	9.00 –10.00	9.00 –10.00	9.00 – 9.50
Portland district	*12.00	*12.00	**11.375–11.50
Boston district	*11.50	*11.50	**10.875–11.00
Providence district	*11.50	*11.50	**10.875–11.00
Philadelphia district	10.00	10.00	9.00 – 9.50
Baltimore district	10.00	10.00	9.00 – 9.50
Norfolk district	10.00	10.00	9.00 – 9.50
Charleston district	10.00	10.00	9.00 – 9.50
Savannah district	10.00	10.00	9.00 – 9.50
Jacksonville district	10.00	10.00	9.00 – 9.50
CALIFORNIA, U. S. MOTOR GASOLINE			
New York harbor	10.00 –10.50	10.00 –10.50	9.50
Philadelphia district	10.00	10.00	9.50
Baltimore district	10.00	10.00	9.50
WATER WHITE KEROSENE			
New York harbor	8.00	8.00	8.00
Philadelphia district	8.00	8.00	8.00
Baltimore district	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
GAS OIL: 28-34 Gravity			
New York harbor	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
Boston district	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
FURNACE OIL: 36-40 Gravity			
New York harbor	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Boston district	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
GRADE C BUNKER OIL†			
New York harbor	$1.05	$1.05	$1.05
Boston district	$1.05	$1.05	$1.05
DIESEL OIL			
New York harbor	$2.00 –$2.10	$2.00 –$2.10	$2.00 –$2.10
MEDICINAL OILS, RUSSIAN			
885-890 s.g. 325-330 vis.	$0.75 – 0.80	$0.75 – 0.80	$0.75 – 0.80
870-875 s.g. 150-155 vis.	$0.65 – 0.70	$0.65 – 0.70	$0.65 – 0.70

Note: Above gasoline prices do not include inspection tax levied in some states
*Minimum delivered. **Delivered prices. †Lighterage 5c per bbl. additional

New York Export Market

(Lubricating oils are per gal. in bbls.)

	June 3	May 27	May 20
CYLINDER OILS (Pennsylvania Products)			
Bright stock, dark	*58.00 –62.00	*60.00 –62.00	*58.00 –62.00
600 D filtered	No quotations	No quotations	*48.00
600 Warren E filtered	*45.00 –47.00	*44.00 –47.00	*44.00 –47.00
600 s.r. unfiltered	*42.00 –43.00	*42.00 –43.00	*42.00 –43.00
550 s.r., unfiltered	*47.00 –48.00	*48.00 –50.00	*48.00 –50.00
600 flash, s.r.	*50.00 –52.00	*52.00	*52.00
630 flash, s.r.	*53.00 –54.00	*54.00 –56.00	*54.00 –56.00
*Nominal			
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00 –21.00	20.00 –21.00	20.00 –21.00
250 vis. No. 6 color	18.00 –20.00	18.00 –19.00	18.00 –19.00
200 vis. No. 6 color	16.00 –18.00	16.00 –18.00	16.00 –18.00
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	23.50	23.50	23.50
180 vis. No. 3¼ color	18.50 –20.50	19.00	19.00
100 vis. No. 2¼ color	16.00 –17.00	16.00	16.00
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	33.00	33.00	33.00
500 vis. No. 6½ color	31.00	31.00	31.00
400 vis. No. 7¼ color	30.00	30.00	30.00
300 vis. No. 6 color	25.00 –27.00	29.00	29.00
200 vis. No. 6 color	24.00	28.00	28.00
MEDICINAL OILS			
875-885 s.g.	$0.80	$0.80	$0.80
865-870 s.g.	$0.70	$0.70	$0.70
WAXES (In cents per pound, f.a.s. carload lots)			
WHITE CRUDE SCALE (In barrels)			
122-124 A.m.p.	2.875– 3.00	2.875– 3.00	3.00 – 3.25
124-126 A.m.p.	2.875– 3.00	2.875– 3.00	3.00 – 3.25
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	4.00 – 4.25	4.00– 4.1255	4.00 – 4.25
125-127 A.m.p.	4.00 – 4.25	4.00 – 4.125	4.00 – 4.25
128-130 A.m.p.	4.25 – 4.50	4.50 – 4.62	4.625– 4.75
130-132 A.m.p.	5.50 – 5.75	5.75 – 6.00	5.75 – 6.00
133-135 A.m.p.	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
135-137 A.m.p.	6.50	6.50 – 6.75	6.50 – 6.75
YELLOW CRUDE SCALE			
124-126 A.m.p.	2.875	2.875	2.875– 3.00

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. or more unless otherwise noted and for export shipment only).

GASOLINE	June 3	May 27	May 20
U. S. Motor	8.50	8.50	8.50
60-62 400 e.p.	9.50	9.50	9.50
61-63, 390 e.p.	9.75	9.75	9.75
64-66, 375 e.p.	10.00	10.00	10.00
U. S. Motor, cases (cargoes)	$1.75	$1.75	$1.75
64-66, cases (cargoes)	$1.90	$1.90	$1.90
KEROSENE			
44 water white	8.75	8.75	8.75
41-43 prime white	7.75	7.75	7.75
Water white, cases (cargoes)	$1.80	$1.80	$1.80
Prime white, cases (cargoes)	$1.70	$1.70	$1.70
DOMESTIC GAS & BUNKER OILS			
*26-30 translucent gas oil	4.00	4.00	3.875– 4.00
*30 plus translucent gas oil	4.00 – 4.125	4.00 – 4.125	4.00
Grade C bunker oil	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
Grade C bunker oil, cargoes	$0.75 – 0.85	$0.75 – 0.85	$0.75 – 0.85
*Less than ½ of 1% sulfur.			
MEXICAN CRUDE AND BUNKER OILS (F. O. B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$0.60 –$0.65	$0.60	$0.60
Grade C bunker oil, for bunkering purposes, taxes paid	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
SOUTH TEXAS LUBRICATING OILS, (Viscosity at 100° F.(cold test 0) (Tanker, f. o. b. Houston)			
100 vis. No. 2 unfiltered pale	6.50 – 6.75	6.25 – 6.50	6.25 – 6.50
200 vis. No. 3 unfiltered pale	8.50 – 9.50	8.00 – 9.50	8.00 – 9.00
300 vis. No. 3 unfiltered pale	9.50 –10.50	9.00 –10.50	9.00 –10.00
500 vis. No. 3½ unfiltered pale	11.00 –12.00	10.50 –11.00	10.50 –11.00
750 vis. No. 4 unfiltered pale	13.50 –14.00	13.00 –14.00	13.00 –13.25
1200 vis. No. 5 unfiltered pale	16.50 –17.00	16.00 –17.00	16.00 –17.00
200 vis. No. 5-6 red oil	8.00 – 8.50	7.50	7.50
300 vis. No. 5-6 red oil	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
500 vis. No. 5-6 red oil	10.00 –10.50	9.50 –10.50	9.50 –10.50
750 vis. No. 5-6 red oil	12.00 –12.50	11.50 –12.50	11.50 –12.00
1200 vis. No. 5-6 red oil	16.50 –17.00	16.50 –17.00	16.50

Gulf Domestic Market

(Prices are f.o.b. Gulf oil terminals in Texas and Louisiana in shipments of 20,000 bbls. or more, representing sellers' opinions, for domestic shipment only).

	June 3	May 27	May 20
U. S. Motor gasoline	8.50 – 9.00	8.00	8.00
41-43 w.w. kerosene	7.25	7.25	7.25
*26-32 translucent gas oil	4.00	4.00	4.00
*Less than ½ of 1% sulfur.			

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	June 3	May 27	May 20
Gasoline, U. S. Motor, 53-55 Gravity	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Gasoline, U. S. Motor-blends and special cuts	7.50 –10.00	7.50 –10.00	7.50 –10.00
Gas Oil, 30-34, per barrel	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
Diesel Oil, 27 plus, per barrel	$0.875–$1.00	$0.875–$1.00	$0.875–$1.00
Bunker oil, 14-18, per barrel	$0.70 –$0.85	$0.70 –$0.85	$0.70 –$0.85
Fuel oil, 14-18 per barrel	$0.60 –$0.85	$0.60 –$0.85	$0.60 –$0.85
Kerosene, 38-40 w.w., 125-150 flash, per gal.	5.50 – 6.25	5.50 – 6.25	5.50 – 6.25
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Kerosene, 38-40 w.w., 125, 150 flash	$1.45 –$1.50	$1.45 –$1.50	$1.45 –$1.50

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	June 3 Crude &/or Fuel	June 3 Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	28-30	30
Gulf to U. K. or Continental ports*	18	20
North Atlantic to U. K. or Continental ports*	16	18
Calif. to North Atlantic ports (not E. of N. Y.)	60–65	$1.00
Gulf to North Atlantic ports (not E. of N. Y.)**	22	38

*Continental ports in the range between Bordeaux and Hamburg, both inclusive.
**For Venezuela loading 1c per bbl. additional. For Tampico loading 4c per bbl. additional.

Above—The famous Goodrich Gasoline test. See details below

Many prominent oil companies recognize the extra long life of Goodrich Gasoline Hose

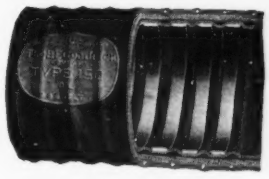
The life of this gasoline hose is longer because of CELINOL

THE solvent effect of gasoline on rubber is well known. It is also well known that the metal tubing of gasoline hose cannot be made gasoline-tight. The problem has been, therefore, to develop a sealing layer to enclose the metal tubing, that gasoline cannot dissolve. This has been accomplished by Goodrich's development of Celinol. Celinol is an exclusive rubber composition that is immune to the destructive effects of gasoline.

Hose made with ordinary rubber quickly becomes gummy and loses elasticity. Celinol, under rigid tests, maintains its springiness, does not rot, or discolor the gasoline. Deterioration in tensile strength is reduced by 50% and swelling by two-thirds.

You can compare the remarkable gasoline-resistance of Celinol by making the Goodrich immersion test yourself. Take a small section of Celinol lining and put it in a bottle filled with gasoline. Take a small section of ordinary rubber and put it in another bottle.

Oil Suction and Discharge Hose



Scientifically balanced combination of wire fabric and oil-proof rubber. Also made with reinforced cover and ends for sea-loading service. Dock records of leading oil companies show this hose outlasts other makes 25% to 50%.

Goodrich Distillate Hose

For conducting fuel oil. The oil-proof tube and cover are the result of years of chemical research work. This hose contains no metal. Light and flexible. Furnished in long lengths. Sizes — 1", 1¼", 1½" and 2".

Leave both samples immersed for sixty days. At the end of that time you will see that Celinol still retains its toughness and elasticity, whereas the other rubber has become gummy, has lost all elasticity and has discolored the gasoline.

We will gladly send a small sample of Goodrich Celinol so that you can make this test yourself. Write to The B. F. Goodrich Rubber Company, Est. 1870, Akron, O. (In the West, Pacific Goodrich Rubber Company, Los Angeles, Cal.) or send the coupon below.

The Goodrich Guarantee

Guaranteed against defect for 24 months after hose is placed in service — a copy of the guarantee is attached to every length before it leaves the factory

N.P.N.-5

THE B. F. GOODRICH RUBBER CO.,
Akron, Ohio.

Gentlemen: Please send me a small sample of Celinol sealing layer so that I may test its superiority myself.

Name .....

Firm .....

Address .....

Goodrich

Tank Wagon Service Station Markets for Gasoline and Kerosene

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect June 3, 1929, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	12	2	14	18	13
Newark, N. J.	14	2	16	20	13
Annapolis, Md.	14	4	18	22	13
Baltimore, Md.	14	4	18	22	12
Cumberland, Md.	14	4	18	22	13
Washington, D. C.	14	2	16	20	12
Danville, Va.	14	5	19	23	12
Norfolk, Va.	14	5	19	23	13
Richmond, Va.	14	5	19	23	13
Roanoke, Va.	14	5	19	23	13
Petersburg, Va.	14	5	19	23	13
Charleston, W. Va.	14	4	18	22	13
Keyser, W. Va.	14	4	18	22	13
Parkersburg, W. Va.	14	4	18	20	13
Wheeling, W. Va.	14	4	18	22	13
Charlotte, N. C.	14	5	19	23	13
Hickory, N. C.	14	5	19	23	13
Mt. Airy, N. C.	14	5	19	23	13
Salisbury, N. C.	13	5	18	20	13
Charleston, S. C.	14	6	20	24	13
Columbia, S. C.	14	6	20	24	13

CONTINENTAL OIL

Denver, Colo.	14	4	18	21	15.5
Pueblo, Colo.	14	4	18	21	15.5
Grand Junc., Colo.	18.5	4	22.5	25.5	19
Casper, Wyo.	17	4	21	24	14
Cheyenne, Wyo.	18	4	22	25	15.5
Butte, Mont.	20.5	5	25.5	28.5	20
Helena, Mont.	20.5	5	25.5	28.5	20
Salt Lake City, Utah	18.5	3½	22	25	17
Boise, Ida.	20.5	4	24.5	27.5	19
Twin Falls, Ida.	20.5	4	24.5	27.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA

Phoenix, Ariz.	14	4	18	22	21.5
Los Angeles, Cal.	15.5	3	18.5	22.5	15.5
Fresno, Cal.	16	3	19	23	16.5
San Francisco, Cal.	16	3	19	23	15.5
Reno, Nev.	20	4	24	28	19
Portland, Ore.	16.5	3	19.5	23.5	16.5
Seattle, Wash.	16.5	2	18.5	22.5	16.5
Spokane, Wash.	20.5	2	22.5	26.5	20.5
Tacoma, Wash.	16.5	2	18.5	22.5	16.5

Note: 3c per gal. discount to dealers off t.w. price thru territory.

S. O. LOUISIANA

Little Rock, Ark.	15	5	20	24	13
Alexandria, La.	14	4	18	22	†16
Baton Rouge, La.	13	4	17	21	†14.5
Lake Charles, La.	††15.5	4	††19.5	††23.5	†16
New Orleans, La.	*12.5	4	*16.5	20.5	†16
Shreveport, La.	14.5	4	18.5	22.5	†15
Lafayette, La.	**15	4	**19	**23	†14
Bristol, Tenn.	17	5	22	25	14
Chattanooga, Tenn.	16.5	5	21.5	25.5	16
Knoxville, Tenn.	17	5	22	26	16
Nashville, Tenn.	14	5	19	23	16
Memphis, Tenn.	13	5	18	22	12.5

*New Orleans gasoline prices include 1c parish tax in addition to 4c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

**Lafayette gasoline prices include 1c parish tax in addition to 4c state tax.

††Lake Charles gasoline prices include 1c parish tax

S. O. KENTUCKY

Ashland, Ky.	13	5	18	19	15.5
Catlettsburg, Ky.	13	5	18	19	15.5
Lexington, Ky.	16	5	21	23	15.5
Louisville, Ky.	16	5	21	23	15
Covington, Ky.	16	5	21	22	15.5
Clarksdale, Miss.	17	5	22	24	12.5
Gulfport, Miss.††	18.5	5	23.5	25.5	14
Jackson, Miss.	17	5	22	24	13
Natchez, Miss.	16.5	5	21.5	23.5	14
Vicksburg, Miss.	16.5	5	21.5	23.5	14
Birmingham, Ala.	18	4	22	24	16
Mobile, Ala.‡	18	4	22	24	15
Montgomery, Ala.*	19	4	23	25	16.5
Atlanta, Ga.	18	4	22	24	†16.5
Augusta, Ga.	18	4	22	24	†15.5
Macon, Ga.	18	4	22	24	†16.5
Savannah, Ga.	17	4	21	23	†15.5
Jacksonville, Fla.	17	5	22	24	14.5
Miami, Fla.	18	5	23	25	15.5
Tampa, Fla.	17	5	22	24	14.5
Pensacola, Fla.**	18	5	23	25	14.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included. ‡Mobile gasoline prices include 1c city tax.

†Georgia kerosene prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

Latest Changes In Tank Wagon Prices

Gasoline Changes

Atlantic Refining—T.w. and s.s. prices gasoline up 1c, Providence, to 16c and 17c respectively, including 2c tax, May 27.

S. O. Ohio—T.w. and s.s. prices gasoline up 1c, through Ohio, making new state-wide price 20c and 21c respectively, including 4c state tax, May 29.

In this change, Hamilton county was unchanged, prices there remaining 19c t.w. and 20c s.s.

On the same date prices at Ada and Chillicothe became 19c for both t.w. and s.s., including tax.

Continental Oil—T.w. and s.s. prices gasoline up 1c, Albuquerque, to 21c and 24c respectively, including 5c tax, May 30.

Canada—T.w. and s.s. prices gasoline up 2c, Alberta, to cover tax increase to 5c, June 1.

Kerosene Changes

Canada—Kerosene up 1c, Vancouver, to 24c t.w., May 23.

S. O. NEBRASKA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Omaha, Neb.	16.25	4	20.25	22.25	13.25
McCook	17.75	4	21.75	23.75	14.75
Norfolk	16.75	4	20.75	22.75	13.75
North Platte	17.75	4	21.75	23.75	14.50
Scottsbluff	17.75	4	21.75	23.75	14.25

S. O. INDIANA

Chicago, Ill.	16.0	0	16.0	17.0	13
Decatur, Ill.	16.2	0	16.2	17.2	13.1
E. St. Louis, Ill.	15.4	0	15.4	16.4	12.2
Joliet, Ill.	16.4	0	16.4	17.4	13.3
Peoria, Ill.	16.2	0	16.2	17.2	13.1
Quincy, Ill.	16.2	0	16.2	17.2	12.9
Indianapolis, Ind.	16.2	4	20.2	21.2	14.2
Evansville, Ind.	16	4	20	21	14
South Bend, Ind.	16.4	4	20.4	21.4	14.4
Detroit, Mich.	16.8	3	19.8	20.8	14.7
Grand Rapids, Mich.	16.7	3	19.7	20.7	14.6
Saginaw, Mich.	16.9	3	19.9	20.9	14.8
Green Bay, Wisc.	16.6	2	18.6	19.6	13.4
Madison, Wisc.	16.3	2	18.3	19.3	13.1
Milwaukee, Wisc.	16.1	2	18.1	19.1	12.9
La Crosse, Wisc.	17.2	2	19.2	20.2	14
Minneapolis, Minn.	17.2	3	20.2	21.2	13.9
Duluth, Minn.	17.5	3	20.5	21.5	13.9
Mankato, Minn.	17.1	3	20.1	21.1	13.7
Des Moines, Ia.	16.5	3	19.5	20.5	13.3
Davenport, Ia.	16.5	3	19.5	20.5	13.3
Sioux City, Ia.	16.1	3	19.1	20.1	12.9
Mason City, Ia.	16.5	3	19.5	20.5	13.3
St. Louis, Mo.	*15.9	2	17.9	18.9	12.3
Kansas City, Mo.	†16.9	2	18.9	19.9	11.6
St. Joseph, Mo.	†16.5	2	18.5	19.5	12.2
Fargo, N. D.	18.9	2	20.9	21.9	15.9
Grand Forks, N. D.	19.2	2	21.2	22.2	16.2
Minot, N. D.	18.9	2	20.9	21.9	15.9
Pierre, S. D.	17	4	21	22	14.4
Huron, S. D.	17.3	4	21.3	22.3	14.7
Wichita, Kans.	14.8	3	17.8	18.8	11.8
Bartlesville, Okla.	14.5	3	17.5	18.5	11.5

S. O. Indiana's quantity contract price schedule thru territory except Chicago on tank truck deliveries of gasoline, figured from the service station price, is 2c for 500 gals. or more a month; 2½c for 2000 gals. or more a month and 3c for 6000 gals. or more a month.

In Chicago and vicinity, these discounts apply: Over 500 gals. per month, 2c per gal. off service station price; over 1,000 gals. per month, 4c per gal. off service station price.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. OHIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W
*Bryan and **Lima	14	4	18	18	14
††13 Competitive Points	††15	4	††19	19	14
†At Other Competitive Points	*15	4	*19	20	14
Elsewhere in Ohio	*16	4	*20	21	14

†These points are: all of Franklin county, including Columbus, Westerville, Worthington and Rome, etc.; Hamilton county, including Cincinnati, etc.; and these additional points: Marion, Hicksville, Celina, Piqua, Arlington and Mortimer.

*Dealers and commercial accounts get 2c per gal off t. w. price.

††These 13 points are: Hamilton. Findlay, Washington C. H., Arcadia, Perrysburg, Fostoria, Wapakoneta, Urbana, Jamestown, Xenia, St. Paris, Ada and Chillicothe. Discount to dealers is 3c per gal. off t.w. price.

**Discount to dealers and commercial consumers s 3c per gal. off t.w. price.

MAGNOLIA PETROLEUM

Muskogee, Okla.	12	3	15	19	13
Oklahoma City	12	3	15	19	10
Tulsa, Okla.	10	3	13	17	10
Fort Smith, Ark.†	12	†3	15	19	12
Little Rock, Ark.	15	5	20	24	13
Texarkana, Ark.*	13	*2	15	19	13
Dallas, Tex.	11	2	13	17	13
Fort Worth, Tex.	11	2	13	16	12
Houston, Tex.	12	2	14	18	13
San Antonio, Tex.	11	2	13	17	11
El Paso, Tex.	15	2	17	20	16

*Within city of Texarkana, the state tax on gasoline is 2c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 3c applies. In this district outside of the city, the 5c Arkansas tax applies.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

New York City	17	2	19	*21	15
Albany, N. Y.	15	2	17	18	15
Buffalo, N. Y.	15	2	17	18	14
Rochester, N. Y.	15	2	17	18	13
Syracuse, N. Y.	15	2	17	18	12
Boston, Mass.	16	2	18	20	15
Augusta, Me.	16	4	20	22	15
Manchester, N. H.	16	4	20	22	15
Burlington, Vt.	16	4	20	22	13

Note: S. O. New York allows concessions of 1 to 2c per gal. to dealers under posted tank wagon prices.

*The Standard of New York does not operate stations in New York City. This figure is the retail price of a principal station operator in New York selling Socony gasoline.

ATLANTIC REFINING

Pittsburgh, Pa.	†16	*	†16	21	14
Philadelphia, Pa.	†16	*	†16	21	14
Allentown, Pa.	†16	*	†16	21	14
Erie, Pa.	†13	*	†13	18	14
Scranton, Pa.	†16	*	†16	21	14
Altoona, Pa.	†16	*	†16	21	14

Above prices include these inspection fees on both gasoline and kerosene, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosene; Arkansas, 1/20c on both Florida, 1/8c on both; Indiana, 2/25c on both; Kansas, 1/50c on both; Louisiana, 1/32c on gasoline, 1c on kerosene; Minnesota, 3/50c on both; Missouri, 1/50c on both; Nebraska, 3/50c to 1/2c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c on kerosene; Wisconsin, 3/50c on both.

Kerosene inspection fees only: Iowa, 13/100c; Michigan 1/5c to 4/5c per gal.

In Illinois, cities and villages have the power to appoint oil inspectors and fix inspection fees which is done in some instances. In some cases in the above states or other states there are local inspection fees.

Tank Wagon, Service Station Markets for Gasoline and Kerosene

Prices in Effect June 3, 1929

ATLANTIC REFINING

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Dover, Del.	†16	3	†19	21	14
Wilmington, Del.	†16	3	†19	21	14
Boston, Mass.	16	2	18	20	15
Springfield, Mass.	16	2	18	20	15
Worcester, Mass.	16	2	18	20	15
Fall River, Mass.	14	2	16	17	15
Providence, R. I.	14	2	16	17	15
Hartford, Conn.	16	2	18	20	14
New Haven, Conn.	16	2	18	20	15
Atlantic City, N. J.	16	2	18	20	13
Camden, N. J.	16	2	18	20	13
Trenton, N. J.	16	2	18	20	13
Annapolis, Md.	16	4	20	22	13
Baltimore, Md.	16	4	20	22	13
Hagerstown, Md.	16	4	20	22	13
Richmond, Va.	16	5	21	23	13
Wilmington, N. C.	16	4	20	22	13
Brunswick, Ga.	17	4	21	23	**16.5
Jacksonville, Fla.	17	5	22	24	14.5

*3-cent state tax is collected by retail dealer and paid by him directly to state.

†The Atlantic Refg Co. recognizes a 2c a gal. discount from its posted tank wagon market on sales to dealers for purposes of resale.

The company also recognizes a maximum discount of 2c per gallon to commercial accounts under contract for one year.

**Georgia kerosene prices include 1c state tax.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	15.7	17.2	19
Detroit	17.4	18.9	20.7
Kansas City	†15.9	†17.4	†19.2
Milwaukee	16.4	*19.9	*21.7
Minneapolis	*19.7	*21.2	*23
St. Louis	15.6	17.1	18.9
New York		17	23
Boston		19	23

*Includes 2c state tax. †Includes 1c city tax.

Petroleum Spirits

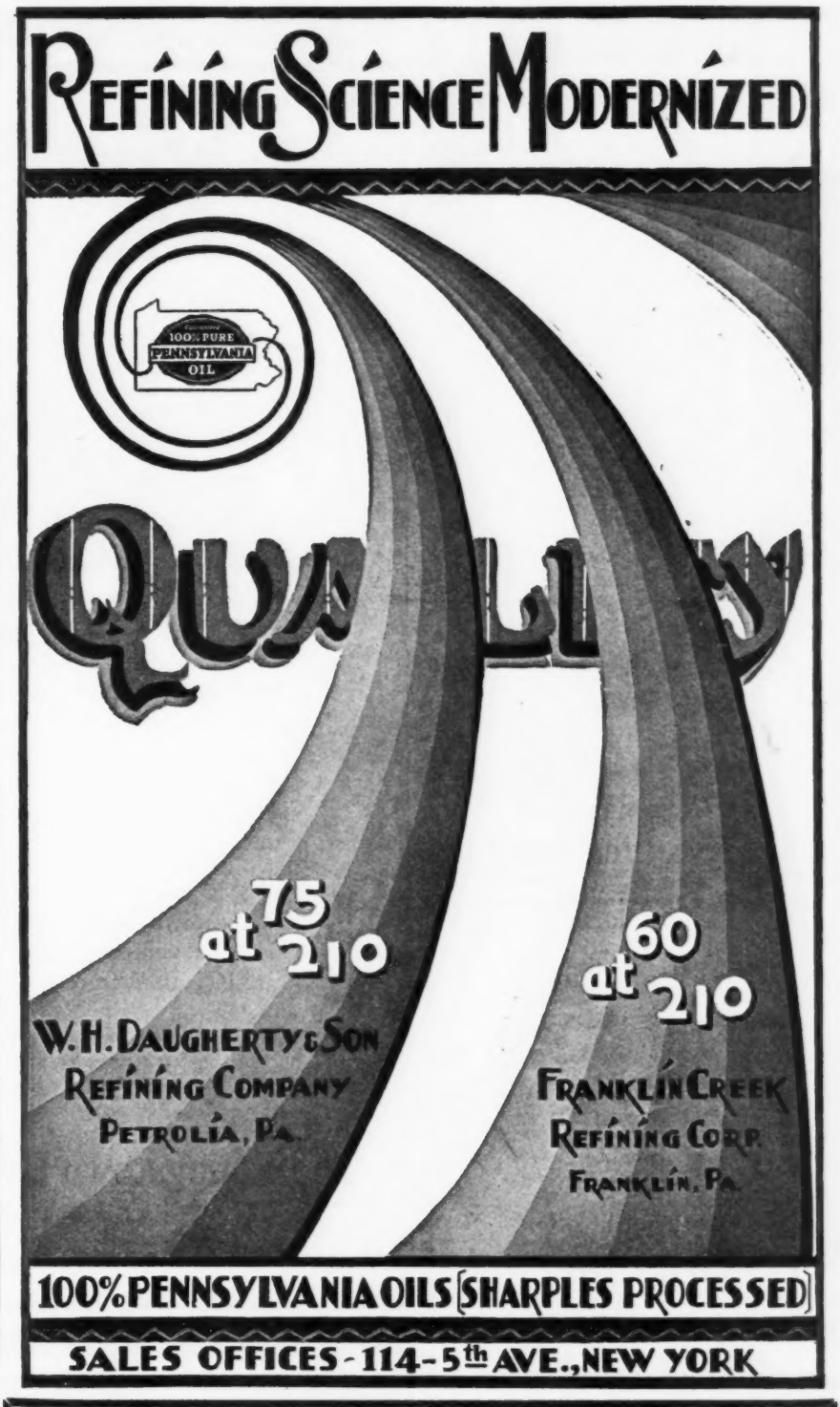
Tank Cars (Solvent)	
New York refineries	12.00
Philadelphia refineries	12.00
Tank Wagon or Steel Barrels	
New York City	17
New England	19
New Jersey	16
Pennsylvania	16–18

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

	Gasoline				Oil
	T.W.	Tax	T.W.	S.S	T.W.
ONTARIO					
Toronto	20.5	5	25.5	29	21
Ottawa	14.5	5	19.5	23	21
Cochrane	25.5	5	30.5	..	26
Ft. William	23.5	5	28.5	32	22.5
MANITOBA					
Winnipeg	22.5	3	25.5	29	21.5
SASKATCHEWAN					
Regina	27	3	30	34	26
ALBERTA					
Edmonton	28.5	5	33.5	37	27.5
Calgary	24.5	5	29.5	33	23.5
BRITISH COLUMBIA					
Vancouver	23	3	26	30	24
QUEBEC					
Montreal	21.5	5	26.5	30	22
Quebec City	21.5	5	26.5	30	23
Three Rivers	22.5	5	27.5	31	23
NEW BRUNSWICK					
St. John	25	5	30	34	25
Moncton	25	5	30	34	25
NOVA SCOTIA					
Halifax	25	5	30	34	25
Sydney	25	5	30	34	25
PRINCE EDWARD ISLAND					
Charlottetown	25	5	30	34	25

Note: In districts surrounding these points 1c additional is added to city price.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100% PURE PENNSYLVANIA OIL
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60 at 210
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FRANKLIN CREEK REFINING CORP. FRANKLIN, PA.
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For The Oil That Has Leaked Away?

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NO EXTRA COST

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BROWN SHEET IRON & STEEL CO.

St. Paul, — Minnesota

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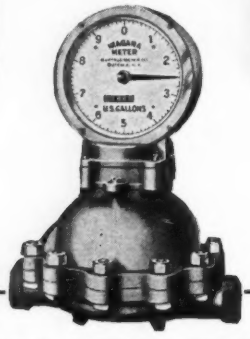
Regardless of how much or how little gasoline or oil passes through a Niagara meter, it accurately registers and records, preventing loss, theft or favoritism.

And a Niagara repays its cost by enabling you to sell and profit on the gasoline and oil that would be unaccounted for without a meter! Send today for our newest catalogue.



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In it you will find shipping drums of various sizes ranging from two to sixty-five gallons; grease drums and pails; wide opening drums with lug, bolted, and friction covers; and, of course, the famous Benetco Por-Pail.

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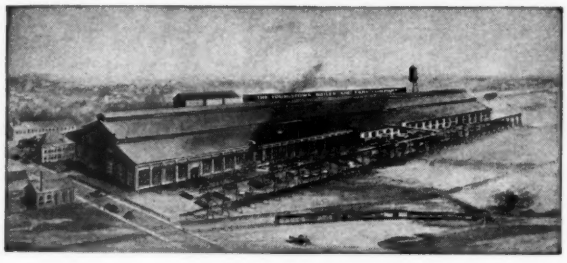

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We will be honored for the opportunity to tell you of "Youngstown" superiority. Ask for Bulletin 15.

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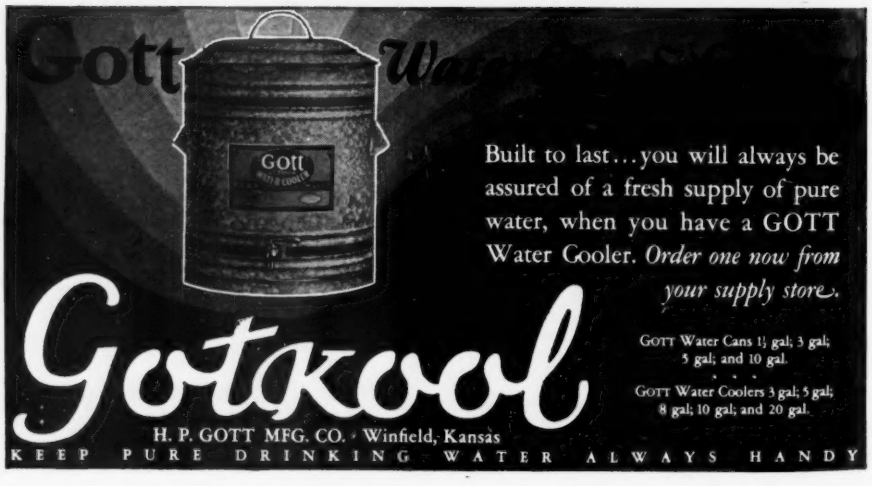
Offices in Principal Cities

YOUNGSTOWN **OHIO**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Built to last...you will always be assured of a fresh supply of pure water, when you have a GOTT Water Cooler. *Order one now from your supply store.*
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H. P. GOTT MFG. CO. · Winfield, Kansas
KEEP PURE DRINKING WATER ALWAYS HANDY

Crude Oil Prices (in Effect June 3, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$4.10
Bradford District Oil in National Transit Lines (Bradford District)	4.10
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	4.00
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	4.00
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.90
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.85
Cabell Grade in Eureka Pipe Lines (West Virginia)	1.65
Corning Grade in Buckeye Pipe Lines (Ohio)	1.90
Corning, O., heavy grade	1.80
Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.80
Ragland Grade in Cumberland Pipe Lines (Kentucky)	$0.60

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines	$1.80

MICHIGAN

(Posted by Dixie Oil Co.)

Dundee (Muskegon)	$1.10

Traverse (Muskegon):

32-32.9	$1.25	37-37.9	$1.50
33-33.9	1.30	38-38.9	1.55
34-34.9	1.35	39-39.9	1.60
35-35.9	1.40	40-40.9	1.65
36-36.9	1.45	41-41.9	1.70

(Posted by Pure Oil Co.)

Midland, Midland County	$1.70

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective May 21, 1929

Wooster	$1.90	Princeton	$1.75
Lima	1.80	Illinois	1.75
Waterloo	1.20	Plymouth	1.28
Indiana	1.57	West Kentucky	1.83

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Petrolia	$2.20
Oil Springs	2.27

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective May 20, 1929

Below 25	$0.85	35-35.9	$1.40
25-25.9	0.90	36-36.9	1.45
26-26.9	0.95	37-37.9	1.50
27-27.9	1.00	38-38.9	1.55
28-28.9	1.05	39-39.9	1.60
29-29.9	1.10	40-40.9	1.65
30-30.9	1.15	41-41.9	1.70
31-31.9	1.20	42-42.9	1.75
32-32.9	1.25	43-43.9	1.80
33-33.9	1.30	44 and above	1.85
34-34.9	1.35		

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

May 20, 1929, same schedule as Prairie in above fields.

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

May 20, 1929, Magnolia posted in above fields and in Panola Co., same schedule as Prairie, except these grades:

Below 26	$0.70	29-29.9	$0.95
26-26.9	0.75	30-30.9	1.05
27-27.9	0.85	31-31.9	1.15
28-28.9	0.90		

May 20, 1929, Glasscock, Crane, Upton, Winkler, Howard and Mitchell Counties same prices as Humble's postings in West Texas which see:

Iatan district	$0.93
Corsicana heavy	0.80
Luling	0.90
Mirando	0.90

Carter Oil Co.

(Oklahoma and Kansas)

May 20, 1929, same schedule as Prairie except Carter does not post oil below 25.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Effective May 20, 1929

Hutchinson and Carson Counties:

Below 32	$0.90	38-38.9	$1.25
32-32.9	0.95	39-39.9	1.30
33-33.9	1.00	40-40.9	1.35
34-34.9	1.05	41-41.9	1.40
35-35.9	1.10	42-42.9	1.45
36-36.9	1.15	43-43.9	1.50
37-37.9	1.20	44 and above	1.55

Wheeler County:

Below 30	$0.90	37-37.9	$1.30
30-30.9	0.95	38-38.9	1.35
31-31.9	1.00	39-39.9	1.40
32-32.9	1.05	40-40.9	1.45
33-33.9	1.10	41-41.9	1.50
34-34.9	1.15	42-42.9	1.55
35-35.9	1.20	43-43.9	1.60
36-36.9	1.25	44 and above	1.65

Gray County:

Below 29	$0.90	37-37.9	$1.35
29-29.9	0.95	38-38.9	1.40
30-30.9	1.00	39-39.9	1.45
31-31.9	1.05	40-40.9	1.50
32-32.9	1.10	41-41.9	1.55
33-33.9	1.15	42-42.9	1.60
34-34.9	1.20	43-43.9	1.65
35-35.9	1.25	44 and above	1.70
36-36.9	1.30		

Above prices met by The Texas Co. and Magnolia on May 20.

WEST TEXAS

Humble Oil & Refining Co.

Effective May 20, 1929

Winkler, Crane, Upton, Crockett, Howard and Pecos Counties, also Lea County, N. Mex.:

Below 25	$0.70	25-25.9	$0.74
26-26.9	$0.78	32-32.9	$1.02
27-27.9	0.82	33-33.9	1.06
28-28.9	0.86	34-34.9	1.10
29-29.9	0.90	35-35.9	1.14
30-30.9	0.94	36 and above	1.18
31-31.9	0.98		

May 20, 1929, The Texas Co. posted same prices as Humble in Crane, Upton, Pecos and Winkler., and Magnolia in Crane, Upton, Winkler, Glasscock, Howard and Mitchell.

SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

Effective May 20, 1929

Mirando	$0.90
Salt Flat	1.25

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado Crichton, De Soto and **Cotton Valley.

Effective May 22, 1929

Below 28	$1.00	36-36.9	$1.45
28-28.9	1.05	37-37.9	1.50
29-29.9	1.10	38-38.9	1.55
30-30.9	1.15	39-39.9	1.60
31-31.9	1.20	40-40.9	1.65
32-32.9	1.25	41-41.9	1.70
33-33.9	1.30	42-42.9	1.75
34-34.9	1.35	43-43.9	1.80
35-35.9	1.40	44 and above	1.85

**Cotton Valley, below 36, $0.85. Beginning with 36-36.9, same schedule as above.

Smackover, below 24	$0.85
do 24 and above	1.00
Bellevue	1.30
*Urania, La	1.10
†East El Dorado	0.75

*Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

May 20, The Texas Co. same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.85; 25-25.9, $0.90; 26-26.9, $0.95; 27-27.9, $1.00.

May 22, Magnolia, Atlantic, Shreveport-Eldorado Pipe Line, Louisiana Oil, and Gulf Companies met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS

Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective May 22, 1929

Below 28	$0.90	30-30.9	$1.02
28-28.9	0.94	31-31.9	1.06
29-29.9	0.98	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective May 20, 1929

Grades A	$1.30	29-29.9	$1.30
Grades B:		30-30.9	1.33
Below 25	$1.15	31-31.9	1.36
25-25.9	1.18	32-32.9	1.39
26-26.9	1.21	33-33.9	1.42
27-27.9	1.24	34-34.9	1.45
28-28.9	1.27	35 and above	1.48

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only.

Crude Price Changes

LOUISVILLE—On June 1 Stoll Oil Refining Co. advanced Oil City, Ky. crude 15 cents, making new price $1.80 per barrel.

* * *

CHICAGO—On May 22 Dixie Oil Co. advanced price of Dundee and Traverse crudes in the Muskegon field, the former grade 10 cents, to new price of $1.10, and the latter grade conforming to Prairie's prices on Mid-Continent crude of like gravity. For new prices, see crude price table under Michigan.

* * *

SHREVEPORT—On May 29 Standard Oil Co. of Louisiana advanced Bellevue crude 10 cents, making new price $1.30 per barrel.

* * *

PITTSBURGH—On June 3 Pure Oil Co. advanced price of Midland district crude in Michigan 20 cents per barrel, making new price $1.70 per barrel.

* * *

TORONTO—On May 21 Imperial Oil Refineries, Ltd., advanced Canadian crude 15 cents, making new price of Petrolia $2.50 per barrel, and Oil Springs, $2.27 per barrel. A previous advance of 15 cents on April 26 had brought prices of Petrolia to $2.05 and Oil Springs to $2.12 per barrel.

Senate Is Only Chance

WASHINGTON, June 1.—The work of putting crude petroleum and its products on the dutiable list in the pending tariff bill will have to be done, if at all, by the United States senate.

The Republican caucus, at its meeting, made arrangements for the offering of 92 amendments to the tariff bill reported by the ways and means committee. It voted against allowing amendments placing oil on the dutiable list to be presented from the floor of the House of Representatives.

That action was expected. Those interested for a long time have been of the opinion they would have to look to the Senate for help. Amendments of all sorts will be in order in the Senate, that body not having adopted as stringent rules as the House.

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Super Service Stations

In 35 articles the past year *National Petroleum News* has told how to build and operate super service stations—what successful marketers are selling and how they sell—

Here are the 35 articles in the past year's issues:

1929

Tire companies help dealers build one-stop stations May 15, p. 30
Station location most important May 15, p. 113
Oil companies may aid tire dealers in building super stations May 1, p. 40-a
Dance, play bridge at Lima's new super station Apr. 3, p. 82
New station washes cars in 15 minutes March 20, p. 118
De luxe shopping centers in California March 13, p. 95
Sinclair to wash cars; buys Gillespie laundries Feb. 20, p. 31
Builds hotels to service stations Feb. 13, p. 90
Speed, thoroness in new super station Feb. 13, p. 96
'Phone in auto at super station Feb. 6, p. 26
Inviting outdoor rest rooms at California stations Feb. 6, p. 104
Auto department stores, Chicago has world's "largest" Jan. 16, p. 91
Three tourist terminal stations to be built by Pierce Jan. 9, p. 105

1928

Pay toilets are means of financing rest rooms Nov. 14, p. 100
Gasoline stations of the future Nov. 14, p. 27
Salesmanship at service stations Oct. 17, p. 38
Super station owner calls customers by first name Oct. 17, p. 195
Auto department stores for 200 cities Oct. 3, p. 17
Opens super service station at Omaha Sept. 26, p. 64
Humble designs fireproof stations Sept. 26, p. 25
Free serve self car wash brings paid service respect Sept. 12, p. 89
Chain stations de luxe in California Aug. 22, p. 25
Central locations best for super stations Aug. 15, p. 80
Bus terminal boosts sales Aug. 1, p. 20
Camp in scenic region draws tourists July 25, p. 68
Everything for the car on one lot July 25, p. 83
Station reclaims desert in California July 18, p. 84
Elaborate station opened in Tulsa July 18, p. 94
Brake tester added to super station July 4, p. 101
Tourist camp increases gallonage June 27, p. 27
Cuba has first super service station June 13, p. 84
Determining successful stations June 6, p. 29; May 9, p. 67; Apr. 25, p. 27; Apr. 18, p. 29

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National Petroleum News
Main Office: 1213 West Third Street
Cleveland, Ohio

Crude Oil Prices (in Effect June 3, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective May 20, 1929

Grades A	$1.30	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.49	40-40.9	$1.69
36-36.9	1.53	41-41.9	1.73
37-37.9	1.57	42-42.9	1.77
38-38.9	1.61	43-43.9	1.81
39-39.9	1.65	44 and above	1.85

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on all below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective May 20, 1929)

‡Salt Creek 29-29.9	$1.10
" " 30-30.9	1.15
" " 31-31.9	1.20
" " 32-32.9	1.25
" " 33-33.9	1.30
" " 34-34.9	1.35
" " 35-35.9	1.40
" " 36-36.9	1.45
" " 37 and above	1.50
Elk Basin	1.65
Grass Creek light	1.65
Big Muddy	$1.43
Lance Creek	1.68
Rock Creek	1.40
Mule Creek	1.20
Rex Lake	1.10
‡Osage	1.65
‡Cat Creek, Mont.	1.65
Sunburst, Mont	1.75
‡Hogback, N. Mex.	1.70
Artesia, N. Mex.	1.08

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

***Standard Oil Co. of California**

Gravity	Signal Hill Seal Beach Alamitos Heights Huntington Beach	Inglewood Torrance	Ollinda-Brea Canon Richfield	Athens-Rosecrans Dominguez	Elwood Terrace	Whittier La Habra	Coyote Hills	Santa Fe Springs	Newhall McKittrick †Kern River	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Montebello	Kettleman Hills	*Santa Maria (Orcutt)	*Ventura
14-14.9	$ .70	$ .70	$ .70	....	....	$ .70	$ .70	....	$ .50	$ .50	$ .50	$ .50	$ .50	$ .70	....	$ .65	$ .70
15-15.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
16-16.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
17-17.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
18-18.9	.75	.75	.75	....	....	.75	.75	....	.50	.56	.56	.56	.56	.70	....	.70	.75
19-19.9	.80	.80	.80	....	....	.80	.80	....	.50	.62	.62	.62	.62	.75	$1.65	.70	.80
20-20.9	.85	.85	.85	....	....	.84	.84	....	....	.68	.68	.68	.68	.80	for	.70	.85
21-21.9	.89	.89	.89	....	....	.88	.88	.89	....	.74	.74	.74	.74	.85	55°	.86	.86
22-22.9	.93	.93	.93	....	....	.91	.91	.92	....	.80	.80	.80	.80	.90	gravity	.87	.87
23-23.9	.97	.97	.97	....	....	....	.94	.95	....	.85	.85	.85	.85	.95	and	.90	.90
24-24.9	1.01	1.01	1.01	1.01	....	....	.97	.98	....	.90	.90	.88	.88	.98	over	.94	.94
25-25.9	1.05	1.05	1.05	1.05	....	....	1.00	1.01	....	.95	.95	.91	.91	1.01	....	.98	.98
26-26.9	1.09	1.09	1.09	1.09	....	....	1.04	1.04	....	1.00	1.00	.94	.94	1.04	....	1.02	1.02
27-27.9	1.13	1.13	1.13	1.13	....	....	1.08	1.07	....	1.05	1.05	.98	.97	1.07	....	....	1.06
28-28.9	1.17	1.17	1.17	1.17	....	....	1.12	1.10	....	1.10	1.10	1.02	....	1.10	....	....	1.10
29-29.9	1.21	....	1.21	1.21	....	....	1.16	1.15	....	1.16	1.16	1.06	....	1.13	....	....	1.14
30-30.9	1.25	....	1.25	1.25	....	....	1.20	1.20	....	1.22	1.22	1.10	....	1.16	....	....	1.18
31-31.9	1.30	....	....	1.30	....	....	....	1.25	....	1.28	1.28	1.14	....	....	....	....	1.23
32-32.9	1.35	....	....	1.35	....	....	....	1.30	....	1.34	1.34	1.18	....	....	....	....	1.28
33-33.9	....	....	....	1.41	....	....	....	1.35	....	1.40	.140	1.22	....	....	....	....	1.34
34-34.9	....	....	....	1.47	$1.16	....	....	1.40	....	....	1.46	1.26	....	....	....	....	....
35-35.9	....	....	....	1.53	1.22	....	....	1.45	....	....	....	1.30	....	....	....	....	....
36-36.9	....	....	....	1.59	1.28	....	....	1.50	....	....	....	....	....	....	....	....	....
37-37.9	....	....	....	1.65	1.34	....	....	1.55	....	....	....	....	....	....	....	....	....
38-38.9	....	....	....	1.71	1.40	....	....	1.60	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	1.77	1.46	....	....	1.65	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	1.83	1.52	....	....	....	....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	1.89	1.58	....	....	....	....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	1.95	1.64	....	....	....	....	....	....	....	....	....	....	....	....

*Santa Maria and Ventura postings are by Union Oil Co. Union Oil Co. posts same prices in all above fields as Standard except it does not post prices in Wheeler Ridge, Whittier, La Habra, Newhall and Kettleman Hills. Standard does not contract for crude testing 11-13.9 gravity, but pays 45c a barrel when purchased.

†Kern River down to 12° gravity is 50c; 11-11.9 is 45c.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	June 3	May 27
Soda Ash light 58% bags, cwt.	$1.32	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.55	$1.55
Silicate of Soda 40 deg. tank cars, cwt.	$0.60	$0.60
Silicate of Soda 40 deg. drums cwt.	$0.80	$0.80
Sal Soda wks.	$0.90-1.00	$0.90-1.00
Caustic Soda 76% solid, cwt.	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks.	$18.50	$18.50
Sulfur, flowers of, cwt.	$3.50-4.50	$3.50-4.50
Liquid Chlorine, tank cars, wks. lb.	3.50-5.00	3.50-5.00

Compounders' Supplies

Vegetable Oils

Linseed carloads, spot, lb.	10.30	10.30
Tanks, spot	9.50	9.50
Soya Bean, Tanks, coast, lb.	9.625	9.625

Oleic Acid

Distilled, tanks, lb.	9.50	9.75
Distilled, bbls. lb.	10.25	10.50
Saponified, tanks, lb.	9.75	10.75
Saponified, bbls. lb.	10.50	10.50

Lard Oils

Prime Winter Strained, lb.	15.00	15.00
Extra Winter Strained, lb.	13.25	13.25
Extra, lb.	12.875	12.875
Extra No. 1, lb.	12.25	12.25
No. 1, lb.	12.00	12.00
No. 2, lb.	11.75	11.75
Tallow oil, lb.	11.25	11.25

Neatsfoot Oil

Pure, bbls. lb.	14.75	14.75
Extra, bbls. lb.	12.50	12.50
No. 1 bbls. lb.	12.25	12.25
Cold Pressed, lb.	18.50	18.50

Fish Oils

Menhaden Oil		
Light Pressed, gal.	71	71
Light Pressed, tank cars, N.Y. gal.	65	65
White bleached, gal.	78	77
Yellow bleached, gal.	75	73
Whale, extra winter bleached, gal.	82	82

Naval Stores

Steam distilled turpentine, N. Y. gal.	51	51
Steam distilled turpentine, Savannah, gal.	46	48
Gum turpentine, N. Y. gal.	54.00	53.75-54.00
Gum turpentine, f.o.b. cars Savannah, gal.	50	48.75
Wood Rosin F, N. Y. bbl.	$7.30	$7.30
Wood Rosin F, Savn'h. bbl.	$6.50	$7.15
Gum Rosin B, N. Y. bbl.	$7.50	$7.45
Gum Rosin B, f.o.b. cars Savannah, bbl.	$6.80	$6.55
Rosin oil, pure, gal.	61	61
Rosin oil, compounded, gal.	50	50

Pine Tar

Kiln burnt, bbl.	$13.00-14.00	$13.00-14.00
Retort, bbl.	$13.50-14.50	$13.50-14.50

Alcohol

Denatured Formula 5, in bbls., per gal.	56-63	56-63

OIL STOCKS AND FINANCES

National Petroleum News

Richfield Bond Issue Completes Pan American Consolidation

CLEVELAND, June 1

RICHFIELD OIL CO. recently floated $25,000,000 15-year 6 per cent first mortgage and collateral gold bonds, proceeds from the sale of which are to be used in retiring $18,063,841 obligations of Richfield and Pan American Western Petroleum Co., and to provide additional working capital.

Consolidation of the two companies has been completed, James A. Talbot, chairman of the board of Richfield, has announced. The present bond issue is part of the consolidation program.

The company's plan calls for the redemption of $4,750,000 Richfield three-year convertible 5½ per cent gold notes, due June 1, 1931; the retirement of $10,266,000 Pan American Western 6 per cent gold notes, due Jan. 1, 1940, and the liquidation of $3,047,840.90 current notes of Pan American Petroleum Co., operating subsidiary of Pan American Western.

Marked economies in operation are expected to result from the consolidation, Mr. Talbot said. During 1928, he pointed out, Richfield, because of its marketing ability and minimum cost management, showed approximately 15 per cent net profits available for dividends on net sales of $52,000,000, while Pan American with $35,000,000 in net sales showed a loss of $1,291,547. It is reasonable to assume, he said, that Pan American Western, under the direct consolidated management of the personnel that made 15 per cent profit for Richfield, can show an equally great profit on its sales.

"At least $2,000,000 annually will be saved by the consolidation, in salaries and rentals alone," according to Mr. Talbot. "Richfield is soon to move into its own building in Los Angeles, and thereby effect a great rental saving, as members of the two companies' staffs are now being housed in a number of buildings throughout the city. Whereas prior to July 1, 1928, Pan American Western had 2600 employes, this number by virtue of the consolidation has now been cut to 1400 with the knowledge that a still further decrease will be made upon moving to the new quarters.

"AT THE time Richfield acquired control of Pan American Western, July 1, 1928, its sales had grown so rapidly that they had almost caught up with the maximum output of its refining facilities and the company had been planning an immediate enlargement. To round out the demands of its sales department so that it would be able to meet calls for various other petroleum products, it had become necessary for Richfield either to construct or purchase lubricating oil manufacturing facilities, steam refining and oxidized asphalt plants, grease manufacturing equipment, as well as a barrel and can plant. All these additional facilities have been obtained by Richfield through the acquisition of Pan American and all are now operating at greater capacity than prior to July 1, 1928."

Prior to consolidation, Richfield's immediate need was for an enlargement of its crude oil refining facilities and Pan American Western's 60,000-barrel Watson plant so well fitted into the new picture that where Pan American had been utilizing this plant but about 58 per cent of its capacity, under the consolidation it is being used 100 per cent in addition to Richfield's own capacity of 55,000 barrels daily. A 15,000-barrel cracking plant formerly but partly operating is now running at capacity. The barrel plant is at present running at double its former output while the can plant is turning out two and one-half times as many containers.

THE consolidation has brought to Richfield a pipe line connecting the Midway-Sunset fields with Long Beach. Richfield has built gathering lines to be hooked into this trunk which, with present production either being delivered to other companies in the field or shut in, will be handling about 16,000 barrels daily. It is preparing to build more gathering lines.

The gathering system will be prepared to put an additional 19,000 barrels daily into the lines at such time as Richfield production requirements call for new drilling at Elk Hills, Lost Hills, Midway or on the Kern Front, where Richfield production department estimates that it could increase withdrawals not less than 40,000 barrels daily in an eight months' drilling campaign, should necessity arise.

To Richfield's acreage there have been added by the consolidation 12,900 acres of proven and potential fee and mineral right lands in addition to 12,800 acres of proven and semi-proven lease rights. The majority of these former Pan American Western holdings lie in Ventura and the San Joaquin Valley fields, with 1642 acres of proven acreage at Elk Hills. This latter is in a solid block with the exception of 80 acres, and obviates the necessity of drilling from an offset standpoint until such time as increased production demands make this reserve needed. Forty-nine wells at Elk Hills have been averaging 7000 barrels daily for many months with

(*Continued on Page* 143)

STANDARD
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ISSUES

SOUTH PENN
OIL CO.

NEW STOCK
(WHEN ISSUED)

BOUGHT—SOLD—QUOTED

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Build Your Business on Our Reputation for Satisfactory Petroleum Products —a Reputation as Old as the Automobile Industry Itself.

Empire Oil & Refining Company

Subsidiary Cities Service Co.

GENERAL SALES OFFICE—TULSA, OKLA.

NEW YORK PHILADELPHIA CLEVELAND CHICAGO ST. PAUL
KANSAS CITY ST. LOUIS FT. WORTH TORONTO

Transactions in Oil Shares on New York Stock Exchange

1928 High	1928 Low	1929 High	1929 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended June 1 Sales	First	High	Low	Last	Change
43⅞	27⅛	42⅝	22⅛	(sh) 922,075	N.P.	Amerada Corp	50cQ	Apr. 30, 29	11,000	25¾	26¼	24½	25	0
85	51¼	64¾	43⅛	(sh) 209,180	N.P.	American Republics Corp	....	.....	3,300	48⅛	49	†43⅛	49	0
5 ⅜	37½	47¼	40	$56,000,000	$25	Associated Oil	50cQ	Mar. 31, 29	460	43	43	†40	40	— 3
62½	50	71½	53½	50,000,000	25	Atlantic Refining	‡25cQ	Mar. 15, 29	103,400	66¼	66¼	62	64⅜	— 1⅜
118¼	114½	117⅝	114	20,000,000	100	do pfd	$1.75Q	May 1, 29	.....	.....	.....	.....	.....	.....
53	20	49½	38⅛	47,261,125	25	Barnsdall Corp. A	50cQ	May 6, 29	49,800	43⅜	43⅜	41⅜	41⅞	— 1
51¼	20	49	38¼	300,525	25	do B	50cQ	May 6, 29	.....	.....	.....	.....	.....	.....
24½	12¼	28⅛	20	(sh) 956,075	N.P.	Beacon Oil	....	.....	5,600	24	24¾	24	24	0
36	25¼	30	26¾	$51,524,150	$25	California Petroleum	....	Jan. 1, 29	90	27	27	27	27	— 8
94⅛	68	84¼	63	21,031,400	100	General Asphalt	....	.....	12,500	81	82½	78¼	82	— 1½
141	110⅛	128¾	104½	6,628,200	100	do pfd	$1.25Q	June 1, 29	800	120	124½	120	124	— 1
167	79	107	70½	25,000,000	100	Houston Oil	....	.....	11,100	82	82	†70½	75	— 7½
38⅜	21¾	39¼	30	(sh) 1,333,157	N.P.	Independent Oil & Gas	50cQ	Apr. 30, 29	2,600	36⅞	36⅞	35	35½	— 1½
39⅜	9	52⅝	29	$4,299,190	$10	Indian Refining	....	Dec. 15, 20	62,900	43½	43⅞	34⅝	39¾	— 3⅜
37¼	8½	48¾	28	4,550,110	10	do ctfs	....	.....	39,600	40	40	31½	36	— 4½
185	140	165	160	1,977,700	100	do pfd. new	$1.75Q	Apr. 1, 29	.....	.....	.....	.....	.....	.....
39½	27¾	33½	26	3,992,387	N.P.	Lago Oil & Transport	....	May 2, 27	2,300	28	28	†26	26	— 2½
19¾	9⅜	18	12¾	(sh) 1,187,298	N.P.	Louisiana Oil Refining	....	.....	18,500	13½	14	12⅝	12¾	— ⅞
96	78	100	89	$4,000,000	$100	do pfd	$1.62½	May 15, 29	810	91	91	90½	90½	— ½
25½	12½	18½	12	(sh) 330,000	N.P.	Maracaibo Oil	....	.....	1,500	14	14⅜	13	13½	— 2⅜
49¾	33	47⅛	33⅛	(sh) 2,316,897	N.P.	Marland Oil Co	....	Mar. 31, 27	42,200	36	36	†33⅛	34	— 2⅛
360	250	295	205	$45,942,800	$100	Mexican Petroleum	‡$3Q	Apr. 20, 29	.....	.....	.....	.....	.....	.....
...	...	...	...	12,000,000	100	do pfd	$2Q	Apr. 20, 29	.....	.....	.....	.....	.....	.....
73	45⅛	69⅜	36¼	(sh) 995,500	N.P.	Mexican Seaboard	....	Nov. 15. 24	42,500	48	48	†36¼	38¾	— 6¾
44½	25⅛	39⅞	30⅛	(sh) 1,857,461	N.P.	Mid-Continent	50cQ	May 15, 29	23,700	34⅞	35	33⅝	33⅞	— 1⅛
120½	103¼	121	120¼	$6,718,000	$100	do pfd	$1.75Q	June 1, 29	.....	.....	.....	.....	.....	.....
7⅜	2⅜	5⅛	3¾	23,849,720	10	Middle States	....	July 1, 23	10,400	4	4⅛	3¾	4	— ⅛
5⅞	1½	3½	2½	5,950,500	10	do ctfs	....	.....	1,400	2½	2½	2⅜	2⅜	— ¼
2¼	1	1½	1	(sh) 3,500,000	N.P.	Pacific Oil	....	.....	7,700	1	1	1	1	0
55½	38¼	63	41⅛	$50,000,000	$50	Pan American P. & T	....	Oct. 20, 27	300	56⅞	56⅞	55⅜	55¾	— 4¼
58⅞	37¾	66¾	40½	121,101,400	50	do B	....	Oct. 20, 27	139,200	61⅛	61⅝	56½	59⅛	— 2¼
28⅜	15½	17½	14	(sh) 400,000	N.P.	Pan American Western B	....	Jan. 30, 27	300	14½	14½	14½	14½	0
21⅜	11½	15¼	9⅛	(sh) 199,370	N.P.	Panhandle P. & R	....	.....	2,800	10½	10½	9½	10⅜	— ⅛
106¼	70	76	47½	$2,935,200	$100	do pfd	....	July 2, 23	.....	.....	.....	.....	.....	.....
53⅞	35¼	47	37¼	(sh) 2,406,803	N.P.	Phillips Petroleum	37½cQ	Apr. 1, 29	14,600	39⅛	40	38½	38½	— 1⅝
5¼	½	3⅜	2¼	$29,622,925	$25	Pierce Oil	....	.....	2,100	2¼	2½	2¼	2¼	— ⅛
50	16¼	51½	30	15,000,000	100	do pfd	....	Feb. 1, 22	5,900	40	40	38¼	39⅜	— ¼
6⅜	3½	5⅞	4⅜	(sh) 2,500,000	N.P.	Pierce Petroleum	....	.....	5,700	4⅝	4⅝	†4⅜	4½	— ⅛
64⅜	59½	65⅝	55	$60,636,450	$25	Prairie Oil & Gas	....	Aug. 31, 27	8,300	57	57	†55	55¼	— 1¾
...	...	61⅞	53⅝	101,250,000	25	Prairie Pipe Line	‡75cQ	Mar. 31, 29	7,100	60¼	60⅞	58⅜	60	— ¼
29⅞	16	25⅞	18¼	37,450,850	50	Producers & Refiners	....	Sept. 15, 23	4,200	19	19⅜	†18	18⅞	— ⅜
49¾	41	45¾	38⅛	2,845,350	50	do pfd	....	May 1, 25	110	42	42	41	41	— ¾
31¼	19	30¾	23½	75,959,250	25	Pure Oil Co	37½cQ	June 1, 29	29,400	28⅛	28¼	27⅛	27⅞	— ⅜
119	108	115½	112	13,000,000	100	do 8% pfd	$2Q	Apr. 1, 29	110	113	114¼	113	113	+ ½
56	23½	49⅝	40	47,127,725	25	Richfield Oil	50cQ	May 15, 29	19,900	44⅛	44⅛	41½	42⅞	— 1½
...	...	42½	30½	(sh) 1,200,000	N.P.	Rio Grande Oil Co	‡$1S.A.	Jan. 25, 29	32,900	33	33	†30½	31¾	— 1¼
64	44⅝	55¾	31¾	(sh) 546,646	$13.40	Royal Dutch N. Y. shares	$1.336	Feb. 8, 29	4,300	52⅛	52⅞	51½	52	0
57½	39⅜	55¾	43	(sh) 65,203,000	£2	Shell Transport & T	96.4c	Feb. 8, 29	.....	.....	.....	.....	.....	.....
39⅜	23¼	31⅜	26	12,254,979	N.P.	Shell Union Oil	35cQ	Mar. 31, 29	36,100	28½	29	27⅛	28⅜	+ ⅛
27¼	18⅛	34¼	18¼	$8,357,280	$10	Simms Petroleum	40cQ	Mar. 15, 29	49,500	29¾	31⅜	27	31	+ 1⅜
46¾	17⅜	45	36	5,494,095	N.P.	Sinclair Consolidated	‡50cQ	Apr. 15, 29	179,100	40⅛	40⅛	37½	38⅛	— 1⅞
110	102½	111	107¾	$16,025,200	$100	do pfd	$2Q	May 15, 29	1,100	108	108	108	108	0
42⅜	25	46⅛	32⅞	27,396,590	25	Skelly Oil Co	50cQ	Mar. 15, 29	23,900	39¾	41	38	40¾	— ¼
80	53	81⅞	64	(sh) 13,016,435	N.P.	S. O. California	62½cQ	Mar. 15, 29	48,100	75⅛	75⅛	72½	73⅛	— 2
59¾	37¾	62⅝	48	$612,095,850	$25	S. O. New Jersey	‡25cQ	Mar. 15, 29	68,100	57	57¾	56	57⅛	— ¼
45½	28½	45¾	38⅝	434,094,575	25	S. O. New York	40cQ	Mar. 15, 29	47,100	40¼	40¼	38¾	39⅜	— ¾
77	31½	68½	57	(sh) 1,297,847	N.P.	Sun Oil	25cQ	Mar. 15, 29	3,500	60	61	60	61	+ 1
110	100	105½	100	$5,000,000	$100	do pfd	$1.50Q	June 1, 29	20	104	104	104	104	+ 1
14¼	2¼	12	7	(sh) 1,304,698	N.P.	Superior Oil Corp	....	Dec. 20, 20	52,100	8	8	7	7½	— ½
74¾	50	68⅛	57¼	$211,082,925	$25	The Texas Corp	75cQ	Apr. 1, 29	43,100	62⅝	62¾	61	62½	— ⅜
26⅝	12⅛	23⅞	16¼	8,380,340	10	Texas Pacific Coal & Oil	2½%	Mar. 20, 29	16,700	18½	18½	17	17¼	— 1
41½	19⅜	38½	27⅛	(sh) 2,179,275	N.P.	Tide Water Oil Co	20cQ	Mar. 31, 29	3,200	36	36	34⅝	34⅝	— 1⅝
100¼	86¾	97½	89¾	$20,321,000	$100	do 5½% pfd	$1.25Q	May 15, 29	400	92½	93½	92½	93½	+ ¼
25	14¾	23⅜	17½	(sh) 4,877,976	N.P.	Tide Water Associated	....	Aug. 1, 27	38,100	20⅝	21	19½	20	— ⅝
91¾	81⅞	90	85½	$72,989,200	$100	do pfd	$1.50Q	Apr. 1, 29	400	85⅛	86	†85½	85½	— ½
14½	6¾	13	9	(sh) 3,842,029	N.P.	Transcontinental Oil	....	.....	82,000	12⅞	13	11¾	12¼	— ½
58	42¾	54½	46	$40,858,375	$25	Union Oil of California	50cQ	May 10, 29	15,700	49⅜	49⅜	47⅛	47½	— 1¾
128⅜	110	150¼	121⅞	31,101,200	100	Union Tank Car Co	$1.25Q	June 1, 29	700	132	132	130	130	— 3
44⅞	26	42⅞	28½	(sh) 488,359	N.P.	Warner Quinlan	50cQ	Apr. 2, 29	19,100	31¾	31¾	†28½	31¼	— ⅛
38	20⅛	37⅞	30¼	(sh) 490,000	N.P.	White Eagle Oil & Refining	50cQ	Apr. 20, 29	7,200	35	35	33½	35	+ 1½
22⅛	17¼	29¾	19½	(sh) 428,967	N.P.	Wilcox Oil & Gas	....	May 10, 28	5,200	23	23	20½	21¼	— 2⅜

•New High †New Low XEx-dividends ‡Also extras s-Stock Total Sales 1,471,800

Pittsburgh Stock Exchange

Transactions Week Ended May 31, 1929

	Sales	High	Low	Last	Change
Ark. Nat. Gas	5,619	8¼	7¾	7⅞	+ ⅛
do pfd	4,609	8¼	8⅛	8⅛	0
Devonian Oil	110	10	9	9½	0
Dixie Gas & Util	210	18	17	17	+1
do pfd	25	78	77½	77½	0
Lone Star Gas	2,750	80	74½	77	+2½
Plymouth Oil	275	23½	22½	23	—1
Phoenix Oil pfd	1,000	.40	.40	.40	.05

Pittsburgh Curb Market

Transactions Week Ended May 31, 1929

	Sales	High	Low	Last	Change
Ark. Gas "A"	1,965	8	7½	8	....

More than 17,000,000,000 barrels of petroleum have been produced since 1857, and more than 400 different uses are made of petroleum products, gasoline being the most "popular."

Richfield Oil Co.—Ten thousand additional shares of $25 common stock are listed on New York Stock Exchange.

Sinclair Consolidated Oil Corp.—Harry F. Sinclair has been re-elected chairman of the board of directors. When he was re-elected to the board at the annual meeting May 15 Mr. Sinclair received 4,368,885 votes of the 5,488,154 represented at the meeting. His poll was larger by more than 5000 votes than the vote received by any other director. P. D. C. Bell of St. Louis was elected to succeed Harry Payne Whitney who resigned to give his time to banking directorates. George MacDonald was elected to succeed E. H. Clark and P. W. Thirtle, controller, was elected to fill the vacancy on the board caused by the death of W. H. Isom. Other retiring directors were re-elected.

Cleveland Stock Market

May 31	Par Value	Bid	Asked
Canfield Oil Co	$100	...	140
do pfd	100	103	...
Fred G. Clark	10	9½	10½
National Refining	25	36	36½
do pfd	100	...	137½
Paragon Refining	25	21½	22
do pfd	N.P.	41½	44
do ctfs. of deposit	...	21½	23½

xEx dividend.

Oil Company Earnings

First Quarter	1929	1928
Shell Union Oil	$1,458,577	$1,551,167
H. F. Wilcox Oil & Gas	67,610	.....

Atlantic Refining Co.—Stockholders at annual meeting approved plan to sell stock to employes. This plan involves the issue of 133,333 shares of common stock. All directors and officers were re-elected.

I M P E R I A L

This Trade Mark

Identifies to the motorist the wide-awake jobber who is building his business on the one solid lasting foundation —*quality*.

It will pay you to investigate what Imperial means to the customer and what it offers the jobber,—outside the time it takes to drop us a line or reach for your telephone, there is no obligation and it may be the beginning of a mutually profitable connection . . . *at any rate let us give you the facts on the Imperial franchise.*

Imperial Refineries

Imperial Refining Co. **San Angelo Refining Co.**
Kettle Creek Refining Co. **Wickett Refining Co.**

General Offices
TULSA, OKLAHOMA

Standard Oil Stocks on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended June 1 Sales	First	High	Low	Last	Change
22¾	14⅞	18¾	14¼	£4,126,460	£ 1	Anglo-American Oil	36c	June 5, 29	4,800	14⅞	14⅞	†14¼	14¼	— ¾
21¼	15	18	14½	.....	...	do certificates	36c	June 5, 29	.....	....	....	....	....	.....
20½	14⅜	17	14	.....	£ 1	do cts. non-voting	36c	June 5, 29	100	14	14	14	14	— ⅝
5	1¾	2⅜	1½	(sh) 500.000	N.P.	Atlantic Lobos	.....	.....	200	1½	1½	1½	1½	— ⅜
9¾	3¼	4⅛	1½	$10,000,000	$50	do pfd	.....	.....	.....	....	....	....	....	.....
56	44½	46½	38	$1,000,000	25	Borne-Scrymser	‡$1S.A.	Apr. 15, 29	50	38¼	38¼	38¼	38¼	0
76	58	74¼	67	10,000,000	50	Buckeye Pipe Line	‡$1Q	Mar. 15, 29	100	69	69	69	69	— 1¼
161	117¼	170¼	140⅛	3,000,000	25	Chesebrough Mfg	‡$1Q	Mar. 31, 29	.....	....	....	....	....	.....
23	16	29	17⅜	36,123,350	10	Continental Oil	.....	Dec. 15, 27	8,400	21⅛	21¼	19¾	20	— 1⅛
17½	9½	11⅜	8	.....	N.P.	Creole Petroleum	.....	.....	8,100	8¼	8½	8	8⅛	— ⅛
82	67	75¾	62	1,500,000	50	Cumberland Pipe Line	‡$1Q	Mar. 15, 29	.....	....	....	....	....	.....
88	64½	70½	59½	5,000,000	100	Eureka Pipe Line	$1Q	June 1, 29	400	60¾	62¾	60¾	62¾	— 2¼
13	4¼	6⅝	5	16,000,000	100	Galena Signal Oil	.....	June 30, 25	.....	....	....	....	....	.....
86	26	90	73½	4,000,000	100	do new pfd	.....	June 30, 26	.....	....	....	....	....	.....
89¾	35	88	73½	2,000,000	100	do old pfd	.....	June 30, 26	.....	....	....	....	....	.....
114¾	59¼	124½	89⅜	73,685,700	25	Humble Oil & Refining	‡30cQ	Apr. 1, 29	11,200	117	117	113	114	— 1
290½	176½	340½	285	20,000,000	100	Illinois Pipe Line	$10S.A.	Dec. 15, 28	1,100	302¼	307	300	300	—19
104	56¾	119⅝	88	(sh) 6,605,442	N.P.	Imperial of Canada	12½cQ	June 1, 29	7,800	106¾	106¾	105	106⅞	+ ¾
91⅞	74⅜	97	81¼	$5,000,000	$50	Indiana Pipe Line	‡$1Q	May 15, 29	400	96	96	96	96	— ½
55	35	65½	46⅛	(sh) 7,123,544	N.P.	International Petroleum	25c	Mar. 15, 29	8,400	50	50	47⅛	48	— 3
32⅜	19⅜	25⅞	21⅜	$6,363,350	12.50	National Transit Co	‡25cQ	Mar. 15, 29	1,000	24⅜	24⅜	22⅝	22⅝	— 1⅜
75	38½	85	72	5,000,000	100	New York Transit	.....	July 15, 26	50	82	82	82	82	— 1
69	56½	63	54	2,000,000	50	Northern Pipe Line	$2S.A.	Jan. 2, 29	100	54	55	54	54	0
83½	58½	74⅜	64⅛	60,000,000	25	Ohio Oil Co	50cQ	Mar. 15, 29	300	70⅛	70½	70	70⅛	+ ¼
84	28	44½	28	10,000,000	25	Penn Mex. Fuel	75c	Dec. 16, 28	200	28	28	26½	26½	— 1½
220	167	50	40	4,000,000	25	Solar Refining	$5S.A.	Dec. 20, 28	.....	....	....	....	....	.....
19	12	22½	13	1,000,000	10	Southern Pipe Line	$1	Mar. 1, 29	100	20¼	20¼	20¼	20¼	— ⅛
71⅞	36¾	60¼	40⅜	30,000,000	25	South Penn Oil	50cQ	Mar. 31, 29	2,400	50½	53⅞	49⅜	50½	— 3½
102	70	70	62¾	1,750,000	50	South West Pa. Pipe Lines	$1	Apr. 1, 29	.....	....	....	....	....	.....
95⅞	70⅞	103¼	54	348,175,069	25	S. O. Indiana	‡62½cQ	Mar. 15, 29	21,700	56⅛	56⅜	†54	54¾	— 1¾
27¾	15	21⅜	18	8,000,000	25	S. O. Kansas	.....	June 16, 24	1,100	18½	18⅞	18	18⅛	— ½
49	44	45¼	35⅛	25,654,516	10	S. O. Kentucky new	40cQ	Mar. 31, 29	6,700	36⅛	36⅞	†35⅛	36⅜	— ⅜
54⅝	39⅞	50¼	45½	4,649,225	25	S. O. Nebraska	‡62cQ	Mar. 20, 29	100	48	48	48	48	— ⅞
134	71	129	110¼	14,000,000	25	S. O. Ohio	62½cQ	Apr. 1, 29	350	121½	121½	120	120	— 1½
125	116	124½	115	7,000,000	100	do pfd	$1.75Q	June 1, 29	30	116	116	†115	115	— 2¾
23½	16	18	14	861,466	25	Swan Finch Co	30c	Jan. 15, 29	.....	....	....	....	....	.....
111	72	133¾	105½	126,154,000	25	Vacuum Oil	$1Q	Mar. 20, 29	4,400	119	119	†115½	117	— 2

*New High †New Low ‡Also Extras

Independent Oils on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Par Value	Stocks	Transactions Week Ended June 1 Sales	First	High	Low	Last	Change
1½	.53	.72	.375	$ 5	Amer. Cons. Oilfields	.....	....	....	....	....	.....
9½	3⅛	8⅝	4	N.P.	Amer. Maracaibo	4,300	4¼	4¼	†4	4	— ⅜
4½	2¼	5	1⅞	$10	Argo Oil	3,200	2¾	2¾	2¼	2⅜	— ⅜
3¾	3⅜	8½	3¾	10	Arkansas Nat. Gas	19,500	8	8½	7⅝	8½	+ ½
55	32¾	62	50	N.P.	British American Oil	.....	....	....	....	....	.....
23⅞	3¾	4⅞	2⅝	25c	Carib Syndicate	1,900	3⅞	3⅞	3¼	3½	— ¼
90⅞	54	121⅞	88⅜	$25	Cities Service	.....	....	....	....	....	.....
...	...	...	...	...	do new	7,200	29¼	29½	28⅝	28⅞	— ⅝
103½	94½	98½	88⅜	100	do pfd	1,800	98⅛	98⅜	98	98¼	— ¼
9⅝	8⅛	9¼	8⅞	10	do pref. B	300	9	9	9	9	0
97	88½	96	92	100	do pref. BB	200	92	92	†92	92	0
35¼	27⅜	....	....	10	do Bankers	.....	....	....	....	....	.....
2¼	1	1½	1	1	Colombia Syndicate	2,000	1	1⅜	1	1	0
17¾	9¾	15	6	....	Colon Oil	1,400	9	9	†6	7⅞	— 1⅜
8⅞	6¼	11⅛	6¾	10	Consolidated Royal	100	7	7	7	7	+ ¼
3¼	.76	2½	1⅛	N.P.	Crown Central	4,800	1¾	1¾	1½	1½	— ⅛
15	6¾	11¾	8	N.P.	Crystal Oil	.....	....	....	....	....	.....
50	48	51⅛	51⅛	$100	do pfd	.....	....	....	....	....	.....
33½	8⅛	26	14	N.P.	Darby Petroleum	3,800	15⅜	15⅜	†14	14⅛	— 1⅜
13½	7⅞	....	....	....	do trust ctfs	.....	....	....	....	....	.....
2⅞	1	9⅝	2	N.P.	Derby Oil & Refining	3,800	7⅞	8⅜	7	8⅛	+ ¾
21⅛	7½	....	....	N.P.	do pfd	800	37¾	39⅛	37¾	39⅛	+ 1⅜
2	1	....	....	N.P.	Gibson Oil	.....	....	....	....	....	.....
.53	.15	....	....	N.P.	Gilliland ctfs	.....	....	....	....	....	.....
165	101⅛	189	142⅛	$25	Gulf Oil Corp	8,400	171⅛	171⅛	165¾	168	— 3⅜
7½	5⅜	7½	4⅛	5	Homaokla Oil	1,900	4½	4½	†4⅛	4⅜	— ⅛
3⅜	1	2⅞	1¼	10	Intercontinetal Pet	3,800	2¼	2⅜	1⅝	1¾	— ⅛
3	¼	3⅝	1½	N.P.	Kirby Petroleum	1,200	2	2⅛	1⅞	1⅞	+ ¾
9⅜	5⅛	6⅛	4	N.P.	Leonard Oil & Dev	2,200	4¼	4¼	†4	4	— ½
43⅜	20	38⅞	24¾	N.P.	Lion Oil & Refg	800	31	32	31	32	— 2⅝
69⅛	48⅛	80	67	$25	Lone Star Gas	800	77⅝	79	77⅝	79	— 1
1⅞	.50	1¼	⅜	1	Magdalena Syndicate	3,400	½	½	†⅜	⅜	— ⅛
48½	32	38½	21½	N.P.	Margay Oil	100	23	23	23	23	+ 1½
40½	40½	....	....	$10	Mexican-Panuco	.....	....	....	....	....	.....
8	2¾	6⅜	3⅜	N.P.	Mexico-Ohio Oil	100	4¼	4¼	4¼	4¼	— ¼
.74	.20	....	....	$10	Mexico Oil	.....	....	....	....	....	.....
1¾	.76	1½	1	1	Mountain & Gulf	3,900	1	1	1	1	0
28⅞	19½	22⅞	16⅜	10	Mountain Producers	5,400	16¾	17	16½	17	+ ⅛
5⅝	4¼	5	3⅞	5	New Bradford	900	3⅞	4	3½	4	0
5½	3	3½	3	10	New England Fuel	100	3	3	3	3	0
11⅞	7⅛	9⅜	5½	1	New Mex. & Ariz	1,200	5½	6	†5½	6	0
15½	11½	....	....	25	New York Petrol	400	18½	18⅞	18⅜	18¼	— 1⅛
40	39⅛	....	....	....	North Amer. Oil Cons	.....	....	....	....	....	.....
13¼	8⅛	11⅝	8¾	N.P.	North Cent. Texas	600	11	11¼	10¾	10¾	0
....	....	19¼	14⅜	N.P.	Oil Stock, Ltd. A	1,000	17	17	16⅜	16⅝	+ ⅛
....	....	18¼	15	N.P.	do B	600	16½	*18¼	16½	18¼	0
26¼	20	23¼	16	N.P.	Pacific Western Oil	100	16¾	16¾	†16	16½	— ⅜
6	2¼	3½	2	N.P.	Pandem	200	2⅛	2¼	2	2¼	0
15⅝	8½	10¼	6	N.P.	Pantapec	1,400	6¾	7	†6	6	— ¾
20	10⅜	....	....	$25	Paragon Refg. B. ctfs	.....	....	....	....	....	.....
.09	.04	....	....	N.P.	Peer Oil Corp	.....	....	....	....	....	.....
7¾	4⅞	7⅜	4⅜	$10	Pennok Oil	.....	....	....	....	....	.....
....	....	34½	27⅛	N.P.	Petroleum Corp	900	28	28	†27⅛	28	— ⅜
5¾	3⅛	....	....	$5	Pittsburgh Oil & Gas	.....	....	....	....	....	.....
31⅜	26½	30	22½	N.P.	Plymouth Oil	500	23¼	24¼	†22½	23½	— ½
18	8	16	11½	25	Red Bank Oil	.....	....	....	....	....	.....
13	4⅛	8½	5	N.P.	Reiter-Foster	800	5⅝	5⅝	5¼	5½	— ¼
31½	23¼	25½	24	$25	Richfield pfd	300	24⅛	24⅛	†24	24	— ⅜
....	....	29	23½	....	Root Refining pfd	700	24⅝	25½	24½	25½	0
12	4⅝	11	6⅝	N.P.	Ryan Consolidated	100	7	7	7	7	0
7¼	5½	5⅞	3⅛	$10	Salt Creek Cons	100	3¼	3¼	3¼	3¼	— ¼
35	23¼	25⅞	17¾	10	Salt Creek Prod	1,100	18¼	19	†17¾	18¾	+ ⅜
3½	1	2¼	1⅜	5	Savoy Oil	.....	....	....	....	....	.....
40	27	33⅛	32	25	Shreveport El Dorado	.....	....	....	....	....	.....
....	....	23	15½	N.P.	Texon Oil & Land	1,800	17⅛	17⅛	†15½	16½	— 2⅜
22⅞	13	16⅞	11⅝	$10	Tidal Osage	.....	....	....	....	....	.....
21¼	13⅛	16½	10⅛	10	do not-voting	.....	....	....	....	....	.....
93¾	75	101	80	100	Transcontinental pfd	400	100	101	100	100	+ 1
74¼	18	70½	66	10	Venezuela-Mexico	100	70½	*70½	70½	70½	+ ½
9⅛	4⅜	6½	3⅝	5	Venezuelan Petrol	5,500	4	4	3⅝	3¾	— ¼
8¼	4⅞	9⅛	5⅛	1	Woodley Petroleum	400	5½	5½	5⅛	5½	0
⅜	⅛	5⅜	1½	25	Y Oil & Gas	1,200	2¼	2¼	†1½	1½	— ⅝

*New High †New Low

New York Curb Bonds

Week Ending May 31, 1929

	High	Low	Last	Change
Beacon Oil 6s '36	110	109⅛	109⅛	—2⅜
Cities Serv. 5s '66	88¾	87⅞	87⅞	— ⅜
Cities Serv. G. 6½s '42	89½	88½	88½	— ½
Cities Serv. G. P. 6s '43	95	94⅛	94⅛	— ⅝
Cont. Oil 5½s '37	94	94	94	+1
Empire O & R 5½s '42	89	88½	88½	—1½
Gulf Oil 5s '37	99½	99¼	99¼	— ¼
Gulf Oil 5s '47	100	99¼	100	+ ¼
Indep. Oil 6s '39	114⅞	110½	112	—2
Richfield Oil 6s '41	99⅞	99¼	99½	0
Sun Oil 5½s '39	100¼	100	100¼	0

Oil Dividends

	Amount	Payable	Stock of Record
Pure Oil 5¼% pfd. q	$1.25	July 1	June 10
do 6% pfd. q	$1.50	July 1	June 10
do 8% pfd. q	$2	July 1	June 10
South Penn Oil q	50c	June 29	June 15
South West Pa. P. L. q	$1	July 1	June 15
S. O. Kentucky q	40c	June 29	June 15
Warner Quinlan q	50c	July 2	June 12

New York Bonds

Week Ending May 31, 1929

	High	Low	Last	Change
Assoc. Oil gold 6s	100½	100½	100½	0
Atlantic Refg. deb. 5s	100½	100	100¼	— ⅛
Cal. Pet. 5s	96½	96½	96½	—1
Cal. Pet. 5½s	94	98¾	98¾	— ¼
General Asphalt 6s	105	105	105	0
General Pet. 5s	99½	99½	99½	— ¼
Humble Oil & Refg. 5s	100⅛	100	100	0
Humble Oil & Refg. 5½s	101⅛	100⅜	101	+ ⅛
Pan Amer. P & T 7s	104¾	104½	104½	0
Pan Amer P & T 6s	108	106½	106½	—1½
Pan Amer. P & T 6s	95	93½	93½	—2¼
Phillips Pet. 5¼s	90⅛	89	89	—1⅜
Pure Oil 5½s	98½	97½	98	— ½
Shell Union Oil 5s	96	95	95½	+ ½
Sinclair Con. Oil 7s	101⅝	101	101⅝	+ ⅛
Sinclair Con. Oil 6½s	99½	99	99½	+ ½
Sinclair Con. Oil 6s D	99	98⅛	99	+ ½
SinclairCon.OilCrude5½s	95¼	94¾	95¼	+ ¼
Sinclair Pipeline	94	93½	93½	— ½
Skelly Oil 5½s	93½	93⅛	93¼	0
S. O. N. Y. 4½s	95½	94	95	— ¼
S. O. N. J. 5½s	101	100¼	101	0
Trans-Cont. Oil 6½s	99¾	97¾	98	—1
Union Oil of Calif 6s C	95¼	94	95¼	—1¾
White Eagle Oil 5½s	100	99⅛	99⅛	— ⅞

(*Continued from Page* 138)

no drilling operations in progress or contemplated at this time, Mr. Talbot said.

Great potentialities also are said to lie in the Tapo and Ojai holdings of 18,000 acres in the Ventura district. Approximately 80 per cent of this acreage is proven property with the last drilling at Ojai in 1913 and at Tapo in 1923. There is approximately 700 barrels production on this property at present, most of which is closed in.

Richfield also acquired from Pan American Western two tankers having capacities of 77,444 barrels each which are in service between the Pacific and Atlantic seaboards; two barges; 84 tank cars, and 340 pieces of motor equipment.

Richfield has 9000 dealer outlets and is preparing to enter British Columbia through the Paragon Oil, Ltd., which has service stations in Vancouver. Richfield is now building a bulk plant in Vancouver.

Each $1000 bond of the new issue is convertible into Richfield common stock on the following basis: 18 shares from May 1, 1929, to April 30, 1932; 17 shares in the next three years; 16 shares in the third three-year period; 15 shares in the next three years, and 14 shares in the last three years. This arrangement makes the price of the shares $55.55 until April 30, 1932, and in the following periods $58.82, $62.50, $66.67, and $71.43, respectively.

The issue is reported to have been oversubscribed. The underwriting syndicate consists of Bond & Tucker & Goodwin; Hemphill, Noyes & Co.; Bancamerica-Blair Corp.; Hayden, Stone & Co.; Cassatt & Co., and Hunter, Dulin & Co.

Indiana P. L. to Alter Capital

NEW YORK, June 1.—Stockholders of the Indiana Pipe Line Co. will vote June 25 on a proposal to change the capital stock from 100,000 shares of $50 par value each to 300,000 shares of $10 par value each. If the plan is approved three new shares will be distributed for each old share held and a cash distribution of assets not needed in the business will be made.

Texas Pacific Coal & Oil Co.—Annual meeting was postponed indefinitely because the company was unable to get a quorum. This inability was due, said President Roy B. Jones, to the large volume of capital stock held in brokers' names. Present directors will hold over until such time as a quorum can be collected.

Ohio Oil Co.—All directors re-elected at annual meeting.

THE OIL INDUSTRY EXCHANGE

Positions Wanted

REFINERY SUPERINTENDENT eighteen years operation and construction of skimming, lubricating and cracking plants, consider position as assistant with reliable company. Address Box 291.

SALES OR GENERAL MANAGER—Executive open for immediate connection capable of handling National or local distribution gasoline, oils, or allied lines, through brokers, jobbers or direct. Fifteen years experience Chicago, Cleveland, Minneapolis Northwest. Good personality, dynamic energy, thoroughly familiar with refinery methods and a record with references most satisfactory. Address Box 350.

Situations Open

OIL COMPOUNDING PLANT SUPERINTENDENT
Must be thoroughly experienced in compounding oils and superintending a 30-man plant. Will require moving to large city on Atlantic seaboard. State age, education; married or single. List all former employers, giving full duties and responsibilities of each position held.
Box 351

EXPERIENCED DRAFTSMAN WANTED with three or more years experience in general refinery design and construction. State age, training, detailed experience, salary expected. Address Box 352.

ENGINEER WANTED
Qualified by training and experience to handle design and engineering of complete petroleum refining plants. Position now open with old established equipment builders. Reply should give complete information of training and experience and salary.
Address Box 333

DRAFTSMEN WANTED. Prefer men with oil refinery or similar experience. Give full details of personal history, experience, salary desired, etc. Address P. O. Box 788, Wood River, Illinois.

EXPERIENCED CHEMISTS
2 to 5 years refinery operating experience also chemist 1 year analytical experience. State age, training, detailed experience, references, salary expected, also small photo.
Shell Petroleum Corp., East Chicago, Ind.

Professional

L. G. Huntley J. R. Wylie, Jr.
Shirley L. Mason

HUNTLEY & HUNTLEY
PETROLEUM GEOLOGISTS AND ENGINEERS
Frick Building PITTSBURGH, PA.

Patents

ROYAL E. BURNHAM
Attorney-At-Law
Patent and Trade-Mark Practice Exclusively
Continental Trust Building
Washington, D. C.

Wanted to Buy

FIVE OR MORE CUT NO. 117, 10-GALLON VISIBLE FRY GASOLINE PUMPS wanted. In good condition. Quote price and write us giving all particulars. Elk Oil Company, Fayetteville, Tenn.

BARGE WANTED
200,000 gallons capacity. Must be in good condition. State complete details and price.
Address Box 343

For Sale

MR. OIL PRODUCER—Are you looking for a market? This may be your chance to get into one of the best marketing territories in the country. We have deep sea terminal with railroad siding. 32 feet at low water. 11 acres all available for storage. Open harbor approach. No bridges. Joins a thriving city. This is one of the very best oil storage locations on N. E. Coast. A rare opportunity. Come and look at it. If you need a terminal you will want this one. Price and terms both reasonable.
We also have a marketing company with output of upwards of five millions gallonage. Gasoline, fuel and lub. oils. This company operates in a small territory from one tank station. Located in thriving city. Great opportunity to increase this business in nearby territory. Good marketing organization. This marketing can all be operated from sea terminal with trucks. We will sell either or both propositions. Address Box 353.

SEVEN PRATT NO. 6 SAFETY NON-REFILLABLE CAN FILLERS for sale. First class condition and suitable for filling one gallon packages kerosene and light lubricating oil. Bargain. Address Box 337.

Business Opportunities

MANUFACTURER'S AGENT WANTED
To represent manufacturers of Oil Specialties for refinery and automotive departments of oil companies on commission basis. Prefer agent now representing other lines. Reply giving territory and other lines carried.
Address Box 354

WHERE JOBBER AND REFINER MEET
My office is nothing more than a clearing house for Seller and Buyer of Petroleum Products
DALE W. MOORE
532-533 Mayo Bldg., Tulsa, Okla.
Telephones: 3-4177 and 3-4178.
L. D. 136

Miscellaneous

WHAT IT COSTS

"For Sale," "Wanted to Buy," "Help Wanted," "Business Opportunities."

"Miscellaneous" classifications, set in type this size without border—10 cents a word. Minimum charge, $3.00

"Position Wanted"—5 cents a word. Minimum charge $1.00.

Advertisements set in special type or with border—$4.00 per column inch.

Copy must reach us not later than Friday preceding date of issue.

All advertisements carried on this page are payable in advance.

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